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# BRIGHAM YOUNG UNIVERSITY BULLETIN

# 1996–97 UNDERGRADUATE CATALOG

USPS No. 065-120

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## Directory

Please refer to last page for a campus map and key to building abbreviations. Complete the following addresses with *Provo, UT 84602-*, inserting the last four digits of the PO box after the hyphen in the zip code.

**Information: Campus directory assistance, (801) 378-INFO.**

**ADVISEMENT CENTERS:** Raylene J. Hadley, Director, B-238 ASB, PO Box 21222, (801) 378-4640.

**Open Major,** 151 SWKT, PO Box 25521, (801) 378-3826 (Susan Wilkins, Coordinator).

**College of Biology and Agriculture,** 380 WIDB, PO Box 25189, (801) 378-3042 (Audrey L. Megerian, Supervisor).

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**Marriott School of Management,** 460 TNRB, PO Box 23185, (801) 378-4285 (Eldon Bott, Supervisor).

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**Alumni Association:** 133 ALUM, PO Box 22400, (801) 378-2513.

**Campus Visits and Tours:** Guest Relations/Campus Tours, PO Box 23200, (801) 378-4678.

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**Graduation Evaluation:** B-268 ASB, PO Box 21222, (801) 378-3641.

**Health Center:** McDonald Health Center, PO Box 24801, (801) 378-2771.

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**Registration:** B-130 ASB, PO Box 21114, (801) 378-2824.

**Scholarships and Awards:** Financial Aid, A-41 ASB, PO Box 21009, (801) 378-4104.

**Services for Students with Disabilities:** 151 SWKT, PO Box 27908, (801) 378-2767.

**Traffic Division:** Green House, PO Box 20300, (801) 378-3906.

**Transfer Evaluation:** B-268 ASB, PO Box 21222, (801) 378-3641

**Tuition and Fees:** Cashiers' Office, D-155 ASB, PO Box 21128, (801) 378-7808.

**Veterans Support:** B-150 ASB, PO Box 21113, (801) 378-2768.

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**Statement of Nondiscrimination**—Admission to Brigham Young University is nondiscriminatory. The university admits persons regardless of race, color, national origin, religion, age, gender, or disability who meet university and department academic requirements and agree to abide by the university's standards of conduct and behavior.

The university makes every reasonable effort to provide accurate information in the contents of this catalog but reserves the right to make changes at any time without prior notice. This catalog is not a contract between Brigham Young University and present or prospective students. The university reserves the right to change or discontinue graduation requirements, department majors, individual courses, instructors, and all other aspects of university operations. If colleges or majors are discontinued, or if substantial changes in requirements for degrees are made, the university will endeavor to allow students disadvantaged by the change to continue under existing programs and requirements.
The university may place a hold on a student's registration privileges if the student neglects academic work or makes unsatisfactory progress toward graduation.

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# Using This Catalog

## Semester System

Courses of study at Brigham Young University are offered, and credit for satisfactory completion is granted, on a semester basis.

## Course Numbering System

A course's level of instruction is shown by the number assigned to it:

| Course Number | Type of Course |
|---|---|
| 1 to 99 | Preparatory and remedial (noncredit) |
| 100 to 299 | Lower-division |
| 300 to 499 | Upper-division |
| 500 to 599 | Advanced undergraduate or graduate |
| 600 to 799 | Graduate |

## Credit-Hour Designations

One semester hour of credit represents a minimum of one hour of instruction per week in a semester or two hours of instruction per week in a term (e.g., a three-hour class will meet at least three hours per week). The three-number code that appears in parentheses immediately after each course title has the following significance:

| | |
|---|---|
| First number | Semester hours of credit |
| Second number | Class hours of lecture, recitation, or seminar meeting per week |
| Third number | Laboratory hours required per week or hours of field study or individual research per week, beyond the hours shown in the second number |

## Abbreviations and Symbols

### Course Listings

The following abbreviations and symbols are used in the course listings:

| | |
|---|---|
| Arr. | Credit, class, or laboratory hours arranged |
| ea. | Credit-hour designation applies to each registration |
| H | Designates an Honors course that carries GE credit |
| M | Designates an Honors course that does not carry GE credit |
| R | Designates a course that may be repeated for credit. Two R courses with the same number on a transcript are treated as two independent courses. If an R course is repeated to raise the grade received, the grade will be averaged, because it is assumed that the subject matter varies from time to time. |
| + | Cross-referenced course—one that originates in one department but may count for credit in another. |
| (19—) | Date faculty member was hired |

### When Courses Are Offered

The following abbreviations are used following the credit hour designation on each course to indicate when the course is offered:

| | |
|---|---|
| F | Fall semester |
| W | Winter semester |
| Sp | Spring term |
| Su | Summer term |
| Alt. sem. | Alternate semester |
| Alt. term | Alternate term |
| Alt. yr. | Alternate year |
| Even yr. | Even year |
| Odd yr. | Odd year |
| 1st blk. | First block |
| 2d blk. | Second block |
| On dem. | On demand |

### Departments

| | |
|---|---|
| Aerospace Studies | Aeros |
| Agronomy and Horticulture | AgHrt |
| American Heritage | AHtg |
| American Sign Language | ASL |
| Animal Science | AnSc |
| Anthropology | Anthr |
| Biology | Biol |
| Botany and Range Science | Botny, Range |
| Business Management | BusM |
| Chemical Engineering | ChEn |
| Chemistry and Biochemistry | Chem |
| Civil and Environmental Engineering | CEEn |
| Clothing and Textiles | ClTx |
| Communications | Comms |
| Computer Science | CS |
| Dance | Dance |
| Economics | Econ |
| Educational Leadership | ELdr |
| Educational Psychology | EPsy |
| Elementary Education | ElEd |
| Electrical and Computer Engineering | ECEn |
| Engineering and Technology Education | EngT |
| English | Engl |
| Family Sciences | FamSc |
| Fine Arts | FnArt |
| Food Science and Nutrition | FSN |
| Geography | Geog |
| Geology | Geol |
| Health/Physical Education | HEPE |
| Health Sciences | Hlth |
| History | Hist |
| Honors Program | HonP |
| Humanities | Hum |
| Classics | Clscs |
| Classical Civilization | ClCv |
| Comparative Literature | CLit |
| Instructional Science | IS |

| | |
|---|---|
| International Studies, David M. Kennedy Center for: | |
| American Studies | AmSt |
| Asian Studies | Asian |
| Canadian Studies | Canad |
| European Studies | Europ |
| International and Area Studies | IAS |
| International Relations | IntR |
| Latin American Studies | LtAm |
| Near Eastern Studies | NES |
| Languages: | |
| Afrikaans | Afrik |
| Arabic | Arab |
| Bulgarian | Bulgn |
| Cantonese | Cant |
| Chinese | Chin |
| Czech | Czech |
| Danish | Dansh |
| Dutch | Dutch |
| Estonian | Eston |
| Finnish | Finn |
| French | Fren |
| German | Germ |
| Greek | Greek |
| Greek Modern | GrkM |
| Hebrew | Heb |
| Hindi | Hindi |
| Hungarian | Hung |
| Icelandic | Iclnd |
| Italian | Ital |
| Japanese | Japan |
| Korean | Korea |
| Latin | Latin |
| Latvian | Latvi |
| Lithuanian | Lithu |
| Norwegian | Norwe |
| Polish | Polsh |
| Portuguese | Port |
| Russian | Russ |
| Scandinavian | Scand |
| Serbo-Croatian | SrbCr |
| Spanish | Span |
| Swedish | Swed |
| Thai | Thai |
| Ukrainian | Ukrai |
| Vietnamese | Viet |
| Law School | Law |
| Linguistics: | Ling |
| American Sign Language | ASL |
| Austronesian Languages | AstLg |
| North, Central, and South American Indian Languages | AmILg |
| Teaching English as a Second Language | ESL |
| Welsh | Welsh |
| Management Communication | MCom |
| Managerial Economics | ManEc |
| Manufacturing Engineering and Engineering Technology: | |
| Electronics Engineering Technology | EET |
| Manufacturing Engineering | MFE |
| Manufacturing Engineering Technology | MET |
| Manufacturing Engineering and Engineering Technology | MFET |
| Mathematics | Math |
| Mechanical Engineering | MeEn |
| Microbiology | Mcbio |
| Military Science | MilS |
| Music | Music |
| Native American Studies | NAS |
| Nursing | Nurs |
| Organizational Behavior | OrgB |
| Philosophy | Phil |
| Physical Education | PE |
| Physical Science | PhyS |
| Physics and Astronomy | Phscs |
| Psychology | Psych |
| Political Science | PISc |
| Public Management, Institute of | PMgt |
| Recreation Management and Youth Leadership | RMYL |
| Religious Instruction: | |
| Ancient Scripture | RelA |
| Church History and Doctrine | RelC |
| Secondary Education | ScEd |
| School of Accountancy and Information Systems: | |
| Accounting | Acc |
| Information Systems | ISys |
| Social Work | SocW |
| Sociology | Soc. |
| Statistics | Stat |
| Student Development | StDev |
| Technology Education and Construction Management | CM,TecE |
| Theatre and Film | ThF |
| Visual Arts: | |
| Visual Arts Core | VACor |
| Visual Arts Design | VADes |
| Visual Arts Education | VAEdu |
| Visual Arts History | VAHis |
| Visual Arts Studio | VAStu |
| Women's Studies | WS |
| Zoology | Zool |

## Interdisciplinary Courses

Interdisciplinary courses are taught in several areas.

## 500-Level Graduate Courses

Available to advanced undergraduates.

# University Calendar

The annual calendar at BYU includes two semesters and two terms. Fall semester 1996 begins the day following Labor Day and ends before the Christmas holidays. Winter semester is from early January to late April. Spring and summer terms begin in late April and late June, respectively. Registering for spring and summer terms allows students to accelerate their progress in many degree programs.

## Fall Semester 1996

| | | |
|---|---|---|
| M | Jan 15, 1996 | Last day new freshmen (including international students) may submit applications for the Gordon B. Hinckley/Trustees Scholarships |
| M | Jan 15 | Departmental application deadlines for fall semester 1996 entry to graduate study may be as early as January 15. For specific program and department deadlines and requirements, refer to the department listing in the 1996–97 BYU Graduate Catalog or check with the department. |
| Th | Feb 15 | Last day new freshmen (including international students) may submit undergraduate applications for summer term 1996 and fall semester 1996 admission |
| Th | Feb 15 | Last day new freshmen may submit applications for academic scholarships and for performance and talent awards |
| F | Mar 1 | Last day continuing undergraduate students may apply for scholarships for fall semester 1996 and winter semester 1997 |
| F | Mar 15 | Last day transfer and former BYU students (including international students) may submit undergraduate admission/scholarship applications for summer term 1996 and fall semester 1996 admission |
| M | Apr 1 | Last day to submit ecclesiastical endorsement without a late fee |
| Sa | Jun 1 | Financial aid priority processing date for Pell Grants, Stafford Loans, and BYU loans for fall semester 1996, winter semester 1997, spring term 1997, and summer term 1997 |
| Su | Jul 14 | Last day to apply for BYU short-term loans to pay fall semester 1996 tuition by the deadline |
| Th | Aug 15 | Tuition payment deadline for fall semester 1996 to avoid late fee ($50, August 16–30; $90, September 3–16) |
| Th | Aug 22 | First day summer term 1996 grades are available via Touch-tone telephone system and AIM |
| MTW | Aug 26–28 | Annual University Conference |
| ThFSa | Aug 29–31 | Orientation |
| F | Aug 30 | Last day to pay tuition with $50 late fee (increased to $90 after this date) |
| M | Sep 2 | Labor Day holiday |
| T | Sep 3 | Classes begin |
| T | Sep 3 | Late registration begins for all students who did not use the advance registration system |
| W | Sep 4 | Last day to drop classes without a fee per class |
| M | Sep 16 | Last day to late register or add classes |
| M | Sep 16 | Last day to pay late tuition |
| M | Sep 16 | Last day to drop a class without a W (official withdrawal) appearing on the transcript |
| Th | Sep 19 | Last day to drop a first block class for academic reasons |
| F | Sep 20 | Last day for graduates and undergraduates to apply and pay fee for December 1996 graduation |
| T | Oct 1 | Last day new freshman, transfer, and former BYU students (including international students) may submit undergraduate admission/scholarship applications for winter semester 1997 |
| M | Oct 7 | Last day to officially discontinue from first block classes for nonacademic emergencies |
| M | Oct 7 | Last day to drop a semester class for academic reasons |
| M | Oct 7 | Last day to officially discontinue from the university without being graded |
| T | Oct 22 | Last day of first block classes |
| W | Oct 23 | Second block classes begin |
| W | Oct 30 | Last day to add second block classes |
| W | Oct 30 | Last day to drop a second block class without a W (official withdrawal) appearing on the transcript |
| F | Nov 8 | Last day graduate students in dissertation, thesis, or selected project programs may schedule a final oral examination (defense of their work) and submit one copy of their work to the Reserve Library for December 1996 graduation |
| F | Nov 8 | Last day to drop a second block class for academic reasons |
| F | Nov 15 | Full payment due on BYU short-term loans for fall semester 1996 |
| F | Nov 15 | Last day to apply for BYU short-term loans to pay winter semester 1997 tuition by the deadline |
| F | Nov 22 | Last day graduate students in dissertation, thesis, or selected project programs may have a final oral examination (defense of their work) for December 1996 graduation |
| F | Nov 22 | Last day undergraduates may submit to the Records Office all incompletes, T grades, special exams, GE challenges, military credit, official transcripts of work completed at other schools, and any other information pertaining to December 1996 graduation |

| | | |
|---|---|---|
| T | Nov 26 | Last day to officially discontinue from the university or drop a class for nonacademic emergencies |
| W | Nov 27 | Last day Independent Study course work and final exams may be submitted for December 1996 graduation |
| ThF | Nov 28–29 | Thanksgiving holiday |
| Sa | Dec 7 | Last day graduate students may submit final copies of a dissertation, thesis, or selected project to the library copy center for binding for December 1996 graduation |
| Sa | Dec 14 | Last day graduate students may complete remaining degree requirements, pay fees, and submit exam results and I and T grade changes to the Office of Graduate Studies for December 1996 graduation |
| W | Dec 11 | Last day of class instruction |
| ThF | Dec 12–13 | Reading days |
| Sa, M–Th | Dec 14, 16–19 | Final exams |
| Th | Dec 19 | Graduation (no exercises) |
| Th | Dec 26 | Last day instructors may submit fall semester 1996 grade rolls to the Records Office |
| W | Jan 1, 1997 | Fall semester 1996 grades available on the Touch-tone telephone system and AIM |

## Winter Semester 1997

| | | |
|---|---|---|
| M | Jan 15, 1996 | Departmental application deadlines for winter semester 1997 entry to graduate study may be as early as January 15, 1996. For specific program and department deadlines and requirements, refer to the department listing in the 1996–97 BYU Graduate Catalog or check with the department. |
| T | Oct 1 | Last day new freshman, transfer, and former BYU students (including international students) may submit undergraduate admission/scholarship applications for winter semester 1997 |
| F | Nov 15 | Last day to apply for BYU short-term loans to pay winter semester 1997 tuition by the deadline |
| M | Dec 16 | Tuition payment deadline for winter semester 1997 to avoid late fee ($50, December 17–January 3; $90, January 6–17) |
| F | Jan 3, 1997 | Last day to pay tuition with $50 late fee (increased to $90 after this date) |
| M | Jan 6 | Classes begin |
| M | Jan 6 | Late registration begins for all students who did not use the advance registration system |
| T | Jan 7 | Last day to drop classes without a fee per class |
| F | Jan 17 | Last day new freshmen (including international students) may submit applications for the Gordon B. Hinckley/Trustees Scholarships |
| F | Jan 17 | Last day to late register or add classes |
| F | Jan 17 | Last day to pay late tuition |
| F | Jan 17 | Last day to drop a class without W (official withdrawal) appearing on the transcript |
| M | Jan 20 | Martin Luther King Day holiday |
| Th | Jan 23 | Last day to drop a first block class for academic reasons |
| F | Jan 24 | Last day for graduates and undergraduates to apply and pay fee for April 1997 graduation |
| M | Feb 10 | Last day to officially discontinue from a first block class for nonacademic emergencies |
| M | Feb 10 | Last day to drop a semester class for academic reasons |
| M | Feb 10 | Last day to officially discontinue from the university without being graded |
| Sa | Feb 15 | Last day new freshmen (including international students) may submit undergraduate admission/scholarship applications for spring term 1997, summer term 1997, and fall semester 1997 |
| Sa | Feb 15 | Last day new freshmen may submit applications for academic scholarships and for performance and talent awards for fall semester 1997 |
| M | Feb 17 | Presidents' Day holiday |
| T | Feb 18 | Monday class instruction. No Tuesday classes |
| W | Feb 26 | Last day of first block classes |
| Th | Feb 27 | Second block classes begin |
| F | Feb 28 | Last day graduate students in dissertation, thesis, or selected project programs may schedule a final oral examination (defense of their work) and submit one copy of their work to the Reserve Library for April 1997 graduation |
| Sa | Mar 1 | Last day continuing undergraduate students may apply for scholarships for fall semester 1997 and winter semester 1998 |
| Th | Mar 6 | Last day to add second block classes |
| Th | Mar 6 | Last day to drop a second block class without a W (official withdrawal) appearing on the transcript |
| F | Mar 14 | Last day to drop a second block class for academic reasons |
| F | Mar 14 | Last day graduate students in dissertation, thesis, or selected project programs may have a final oral examination (defense of their work) for April 1997 graduation |
| Sa | Mar 15 | Full payment due on BYU short-term loans for winter semester 1997 |
| Sa | Mar 15 | Last day transfer and former BYU students (including international students) may submit undergraduate admission/scholarship applications for spring term 1997, summer term 1997, and fall semester 1997 admission |
| F | Mar 21 | Last day graduate students may submit final copies of a dissertation, thesis, or selected project to the library copy center for binding for April 1997 graduation |
| F | Mar 28 | Last day graduate students may complete remaining degree requirements, pay fees, and submit exam results and I and T grade changes to the Office of Graduate Studies for April 1997 graduation |

| | | |
|---|---|---|
| F | Mar 28 | Last day undergraduates may submit to the Records Office all incompletes, T grades, special exams, GE challenges, military credit, official transcripts of work completed at other schools, and any other information pertaining to April 1997 graduation |
| T | Apr 1 | Last day to submit endorsement without a late fee. Every enrolled, continuing student, including graduate students, who anticipates registering for any BYU credit after summer term 1995 is required to obtain a new Continuing Ecclesiastical Endorsement. |
| W | Apr 2 | Last day to officially discontinue from the university or drop a class for nonacademic emergencies |
| F | Apr 4 | Last day Independent Study course work and final exams may be submitted for April 1997 graduation |
| T | Apr 15 | Last day of class instruction |
| WTh | Apr 16–17 | Reading days |
| FSa,M–W | Apr 18, 19, 21–23 | Final exams |
| Th | Apr 24 | Graduation—university commencement |
| F | Apr 25 | Graduation—college convocations |
| W | Apr 30 | Last day instructors may submit winter semester 1997 grade rolls to the Records Office |
| F | May 2 | Winter semester 1997 grades available on the Touch-tone telephone system and AIM |
| M | Jun 2 | Financial aid priority deadline for Pell Grants, Stafford Loans, and BYU loans for fall semester 1997 and winter semester 1998 |

## Spring Term 1997

| | | |
|---|---|---|
| Su | Sep 15, 1996 | Departmental application deadlines for spring term 1997 entry to graduate study may be as early as September 15, 1996. For specific program and department deadlines and requirements, refer to the department listing in the 1996–97 BYU Graduate Catalog or check with the department. |
| Sa | Feb 15, 1997 | Last day new freshmen (including international students) may submit undergraduate admission/scholarship applications for spring term 1997, summer term 1997, and fall semester 1997 |
| Sa | Mar 1 | Last day to apply for BYU short-term loans to pay spring term 1997 tuition by the deadline |
| Sa | Mar 1 | Last day continuing undergraduate students may submit scholarship applications for spring or summer terms 1997 |
| Sa | Mar 15 | Last day transfer and former BYU students (including international students) may submit undergraduate admission/scholarship applications for spring term 1997, summer term 1997, and fall semester 1997 admission |
| W | Apr 23 | Tuition payment deadline for spring term 1997 to avoid $25 late fee |
| T | Apr 29 | College advisement center meeting for new students |
| W | Apr 30 | Classes begin |
| W | Apr 30 | Late registration begins for all students who did not use the advance registration system |
| Th | May 1 | Last day to drop classes without a fee per class |
| Th | May 1 | Last day federal government will accept need analysis for processing federal financial aid for 1997–98 academic year |
| W | May 7 | Last day to late register or add classes |
| W | May 7 | Last day to pay late tuition |
| W | May 7 | Last day to drop a class without a W (official withdrawal) appearing on the transcript |
| F | May 16 | Last day to drop a class for academic reasons |
| F | May 16 | Last day to officially discontinue from the university without being graded |
| F | May 23 | Last day for graduates and undergraduates to apply and pay fee for August 1997 graduation |
| M | May 26 | Memorial Day holiday |
| T | Jun 3 | Full payment due on BYU short-term loans for spring term 1997 |
| Th | Jun 5 | Last day to officially discontinue from the university or drop a class for nonacademic emergencies |
| T | Jun 17 | Last day of class instruction |
| W | Jun 18 | Reading day |
| ThF | Jun 19–20 | Final exams |
| F | Jun 20 | Last day graduate students in dissertation, thesis, or selected project programs may schedule a final oral examination (defense of their work) and submit one copy of their work to the Reserve Library for August 1997 graduation |
| Sa | Jun 28 | Last day instructors may submit spring term 1997 grade rolls to the Records Office |
| Th | Jul 3 | Spring term 1997 grades available on the Touch-tone telephone system and AIM |

## Summer Term 1997

| | | |
|---|---|---|
| Su | Sep 15, 1996 | Departmental application deadlines for summer term 1997 entry to graduate study may be as early as September 15, 1996. For specific program and department deadlines and requirements, refer to the department listing in the 1996–97 BYU Graduate Catalog or check with the department. |
| Sa | Feb 15, 1997 | Last day new freshmen (including international students) may submit undergraduate admission/scholarship applications for summer term 1997 and fall semester 1997 admission |
| Sa | Mar 15 | Last day transfer and former BYU students (including international students) may submit undergraduate admission/scholarship applications for summer term 1997 and fall semester 1997 |
| Th | May 1 | Last day continuing undergraduate students may apply for scholarships for summer term 1997 |

| | | |
|---|---|---|
| Th | May 1 | Last day federal government will accept need analysis for processing federal financial aid for 1997–98 academic year |
| Th | May 1 | Last day to apply for BYU short-term loans to pay summer term 1997 tuition by the deadline |
| F | May 23 | Last day for graduates and undergraduates to apply and pay fee for August 1997 graduation |
| M | Jun 16 | Tuition payment deadline for summer term 1997 to avoid $25 late fee |
| F | Jun 20 | Last day graduate students in dissertation, thesis, or selected project programs may schedule a final oral examination (defense of their work) and submit one copy of their work to the Reserve Library for August 1997 graduation |
| Sa | Jun 21 | College advisement center meeting for new students |
| M | Jun 23 | Classes begin |
| M | Jun 23 | Late registration begins for all students who did not use the advance registration system |
| T | Jun 24 | Last day to drop classes without a fee per class |
| M | Jun 30 | Last day to late register or add classes |
| M | Jun 30 | Last day to pay late tuition |
| M | Jun 30 | Last day to drop a class without a W (official withdrawal) appearing on the transcript |
| Th | Jul 3 | Last day graduate students in dissertation, thesis, or selected project programs may have a final oral examination (defense of their work) for August 1997 graduation |
| F | Jul 4 | Independence Day holiday |
| Th | Jul 10 | Last day to drop a class for academic reasons |
| Th | Jul 10 | Last day to officially discontinue from the university without being graded |
| F | Jul 11 | Last day graduate students may submit final copies of a dissertation, thesis, or selected project to the library copy center for binding for August 1997 graduation |
| F | Jul 18 | Last day graduate students may complete remaining degree requirements, pay fees, and submit exam results and I and T grade changes to the Office of Graduate Studies for August 1997 graduation |
| F | Jul 18 | Last day undergraduates may submit to the Records Office all incompletes, T grades, special exams, GE challenges, military credit, official transcripts of work completed at other schools, and any other information pertaining to August 1997 graduation |
| Th | Jul 24 | Pioneer Day holiday |
| F | Jul 25 | Last day Independent Study course work and final exams may be submitted for August 1997 graduation |
| W | Jul 30 | Last day to officially discontinue from the university or drop a class for nonacademic emergencies |
| F | Aug 1 | Full payment due on BYU short-term loans for summer term 1997 |
| M | Aug 11 | Last day of class instruction |
| T | Aug 12 | Reading day |
| WTh | Aug 13–14 | Final exams |
| Th | Aug 14 | Graduation—university commencement |
| F | Aug 15 | Graduation—college convocations |
| F | Aug 22 | Last day instructors may submit summer term 1997 grade rolls to the Records Office |
| T | Aug 26 | Summer term 1997 grades available on the Touch-tone telephone system and AIM |

# The Mission of Brigham Young University

The mission of Brigham Young University—founded, supported, and guided by The Church of Jesus Christ of Latter-day Saints—is to assist individuals in their quest for perfection and eternal life. That assistance should provide a period of intensive learning in a stimulating setting where a commitment to excellence is expected and the full realization of human potential is pursued.

All instruction, programs, and services at BYU, including a wide variety of extracurricular experiences, should make their own contribution toward the balanced development of the total person. Such a broadly prepared individual will not only be capable of meeting personal challenge and change but will also bring strength to others in the tasks of home and family life, social relationships, civic duty, and service to mankind.

To succeed in this mission the university must provide an environment enlightened by living prophets and sustained by those moral virtues which characterize the life and teachings of the Son of God. In that environment these four major educational goals should prevail:

- All students at BYU should be taught the truths of the gospel of Jesus Christ. Any education is inadequate which does not emphasize that His is the only name given under heaven whereby mankind can be saved. Certainly all relationships within the BYU community should reflect devout love of God and a loving, genuine concern for the welfare of our neighbor.
- Because the gospel encourages the pursuit of all truth, students at BYU should receive a broad university education. The arts, letters, and sciences provide the core of such an education, which will help students think clearly, communicate effectively, understand important ideas in their own cultural tradition as well as that of others, and establish clear standards of intellectual integrity.
- In addition to a strong general education, students should also receive instruction in the special fields of their choice. The university cannot provide programs in all possible areas of professional or vocational work, but in those it does provide the preparation must be excellent. Students who graduate from BYU should be capable of competing with the best in their fields.
- Scholarly research and creative endeavor among both faculty and students, including those in selected graduate programs of real consequence, are essential and will be encouraged.

In meeting these objectives BYU's faculty, staff, students, and administrators should also be anxious to make their service and scholarship available to The Church of Jesus Christ of Latter-day Saints in furthering its work worldwide. In an era of limited enrollments, BYU can continue to expand its influence both by encouraging programs that are central to the Church's purposes and by making its resources available to the Church when called upon to do so.

We believe the earnest pursuit of this institutional mission can have a strong effect on the course of higher education and will greatly enlarge Brigham Young University's influence in a world we wish to improve.

—Approved by the BYU Board of Trustees
November 4, 1981

# Brigham Young University: A Unique Environment

## Religious Environment

The Church of Jesus Christ of Latter-day Saints sponsors BYU to provide a university education in an atmosphere that nurtures spiritual growth and a strong testimony of the divinity of Jesus Christ. Church programs are closely correlated at all levels with the activities of the university, and students will find many opportunities to grow spiritually.

### BYU Stakes and Wards

To give students maximum opportunity to participate, the Church is organized into a number of BYU stakes composed of several wards of approximately 150 members each. All single students living away from home who are members of The Church of Jesus Christ of Latter-day Saints become members of a BYU ward. Married students not living in university housing may attend either the BYU ward or the residential ward in which they live.

### Other Religious Denominations

Approximately twenty-five other religious denominations are represented in the BYU student body. These students are encouraged to attend the congregation of their faith.

### Religion Classes

All students at BYU should include regular gospel study as a continuous part of their university experience. Full-time undergraduate students need to take the equivalent of one religion class each semester of enrollment until a total of 14 semester hours in religion has been earned toward a bachelor's degree. See the Religious Education section of this catalog for more information.

### Devotionals and CES Firesides

Each Tuesday at 11:00 a.m. throughout the year, University and Campus Devotionals are conducted in the Marriott Center with General Authorities, other Church leaders, and selected representatives from the university community as speakers. The timely messages of these devotional programs remind students of the importance of the spiritual dimension in education and encourage commitment, faith, and moral behavior. In addition, Church leaders from among the General Authorities speak to students each month at a Church Educational System fireside for college-age young adults, scheduled in the Marriott Center, usually on the first Sunday at 7:00 p.m.

## Academic Environment

The academic environment extends beyond the four walls of a university classroom. Serious students seek enrichment in the library, at university forums and lectures, and through research. Some students may choose to become involved in the Honors Program or live in one of the "quiet halls" on campus—and everyone benefits from drawing on the resources available at college advisement centers.

### Harold B. Lee Library

The Harold B. Lee Library contains a collection that includes over three million volumes, including an extensive collection of pamphlets, titles on microform, and nonprint materials. Numerous electronic databases and indexes, professional journals, and other current serials, as well as local, regional, and national newspapers, are also available. The library is a depository for United States and Canadian government documents and regularly receives publications of state and local governments. In addition, the BYU Regional Family History Library accesses the approximately 100,000 books and more than 800,000 rolls of microfilm contained in the Church's Family History Library in Salt Lake City.

The general collection and subject reference materials are on open shelves on four of the five levels—two below and two above the ground floor. The library's special collections, many of which are confined to specific subject areas, are on the fourth level, and the Manuscripts/Archives Division is located on the fifth floor. To help library users find these materials, an information booklet and library guide leaflets are available at the information desk.

The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their identification cards to borrow books; others may obtain a permit from the circulation librarian. The library is open during fall and winter semesters from 7:00 a.m. to 12:00 p.m. Monday through Friday, and from 8:00 a.m. to 12:00 p.m. Saturday. During spring and summer terms the library is open from 7:00 a.m. to 10:00 p.m. Monday through Friday, and from 8:00 a.m. to 10:00 p.m. Saturday.

BYU library patrons may also use the facilities of other Utah college and university libraries and other major research libraries in the United States. These cooperative arrangements were instituted by the Utah College Library Council (UCLC) and the Research Libraries Group (RLG). The BYU Library is a participating member of both organizations.

Libraries operated by The Church of Jesus Christ of Latter-day Saints are also available to Brigham Young University students. For instance, advanced scholars may do research in the library of the Church Historical Department. Located in the LDS Church Office Building in Salt Lake City, the library is open from 8:30 a.m. to 5:00 p.m. Monday through Friday.

### Learning Resource Centers (LRCs)

The learning resource centers provide an optimal learning environment for specialized, out-of-class instructional activities, usually on an individual or small-group basis, and thereby offer a wide variety of instructional alternatives to students and faculty. The library LRC serves the campus generally, and other LRCs are located in specific academic areas to serve the areas' particular needs.

## University Forums

University Forums, held throughout the year on selected Tuesdays at 11:00 a.m., form an integrative and stimulating part of the General Education experience. Speakers are noted authorities in the arts, sciences, humanities, media, and government, chosen for their contributions to their field and their ability to communicate their insights. Participation in these assemblies (and in the sessions that may accompany them) prompts our inquiry into significant intellectual, cultural, and social issues and extends our understanding of them.

## New Student Orientation

The overall purpose of New Student Orientation is to assist new and transfer students to become familiar with the academic, social, and personal challenges and opportunities of Brigham Young University. Similarly, Orientation provides new students several learning opportunities to become acquainted with the resources available to them on campus. Stated another way, Orientation's purpose at BYU is to assist new students to form an identity with the university community.

New students begin their Orientation experience at BYU by attending New Student Commencement, which introduces them to the meaning of a university education and the purpose of higher education. In this assembly students also learn about BYU's unique mission of blending spiritual growth with intellectual development.

In smaller meetings and seminars, new students are informed of academic disciplines and such university resources and programs as the library, academic advising, scholarships, financial aid, and Honors Education.

New Student Orientation also promotes the interaction of new students with peers, upperclassmen, and faculty. Y Groups, led by upperclassmen, are formed to provide more individualized attention for new students and to introduce them to the university environment. One of the many Y Group activities involves a tour of campus to acquaint new students with university facilities and traditions. As part of the Orientation program, select faculty visit with students at different locations around campus. Mingling with these faculty gives new students insight to the teaching-learning experiences of a BYU education.

Orientation at BYU attempts to balance the social, personal, and academic needs of students by carefully combining appropriate resources, activities, and personnel. It is designed to acquaint, educate, and stimulate the new student regarding the myriad opportunities available at BYU to succeed academically.

## Academic Advisement

The purpose of academic advising at BYU is to help students get the most out of their education. Beginning with Orientation and ending with graduation, Academic Advisement helps students formulate and fulfill an educational plan consistent with their abilities and interests.

The philosophy of Academic Advisement is to encourage students to take responsibility for their own education. To do this, advisement provides students with many aids—including college advisement centers, Advisement by Computer (ABC), Academic Information Management (AIM), and faculty advisors. Together these components form a multidimensional advisement program designed to address the specific academic needs of students, to track and support their progress to graduation, and to enhance their overall experience at BYU.

**College advisement centers** exist in every academic college. At these centers students receive personal assistance in meeting their educational goals as quickly as possible. Timely advice from the centers can help students avoid complications or misunderstandings regarding major and unversity requirements to graduate; the centers also provide career counseling. It is a good idea for all students to contact their advisement center every semester, and students with special needs may be required to seek assistance from college advisement centers. These students include (1) seniors in a "premajor", (2) seniors with no declared major, (3) students with 150 or more semester hours of credit, and (4) students with 12 or more fall and/or winter semester enrollments. These students must visit their college advisement center or departmental advisor to complete a plan for graduation—and may be prevented from registering until they do so. However, once a graduation plan has been filed and approved, these students will be given priority in registration to enhance their chances of obtaining the courses necessary to graduate.

Complementing the personal assistance available at college advisement centers is the university's **Advisement by Computer (ABC).** The ABC Report tracks a student's progress toward graduation. Each semester or term all undergraduate students receive a comprehensive computerized advisement report that indicates what classes they have completed, where they stand academically, and what courses they have left to complete. Students should carefully review each ABC Report to monitor their own academic progress.

Another computer aid to advisement is the **Academic Information Management Program (AIM).** AIM, which is available at a number of locations across campus, provides students with easy access to up-to-the-minute information on their academic progress and other vital information. At AIM terminals students can change their address and phone numbers, access their class schedule, determine course availabilities and instructor schedules, monitor their GE and major progress report (ABC), look at their grades and BYU credit, make PIN changes, check on transfer and AP credit and grades, and handle registration. As part of taking charge of their own advisement, students are encouraged to make full use of AIM and to bring any discrepancies in their record to the attention of their advisement center.

The **Major Academic Plan (MAP),** a supplement to the BYU Undergraduate Catalog, is also a valuable academic resource for students as they plan and prepare their academic schedules. The MAP includes information on general education and major requirements, semester-by-semester recommendations for course selection, and course availability.

Finally, faculty advisors play a key role in BYU's advising program. Students should seek out faculty advisors early in their university experience. Faculty advisors can help students understand the purposes of a university education, explore the expectations of their major, and crystalize plans for a career or further study. The advisement center will notify students who their faculty advisor is, but it is the student's responsibility to initiate contact with the faculty advisor. Students should consult the faculty advisor's office hours and go to interviews prepared to make good use of the time together. Faculty advisors can become one of the student's best resources for information, especially about the major.

## Academic Support Office

(151 SWKT, PO Box 25548, [801] 378-2723)

All students admitted to the university are capable of succeeding academically; however, many students have difficulties achieving the level of success required. The mission of the Academic Support Office is to assist students in maintaining that level of academic success. Administered through the Counseling and Development Center, a department of Student Life, the Academic Support Office uses the combined resources of Student Life to help students resolve most academic problems.

Students with academic problems usually have difficulties in one or more of the following areas: (1) They can experience situations outside the academic realm (i.e., adjustment

problems, illness, relationship concerns, etc.) that distract from academic goals and may need help focusing on those goals. (2) Some students come to the university less academically prepared than other students and may need study skills training. (3) At times a student's learning style, which worked for them in high school, will not work in the university's academic environment; learning style assessment and counseling may help identify and use academic strengths more successfully. (4) Many students lack clearly defined career goals and find themselves floundering within the university; with career guidance they can move toward a more timely graduation.

Counselors are trained to assist students with time management, study skills, learning style, career choice, and other academic concerns. Students who experience academic difficulties are encouraged to contact the Academic Support Office.

## Career Planning Services

(151 SWKT, PO Box 25548, [801] 378-2723)

Many services are available to assist students with the tasks of major and career exploration and decision making. These services include individual career counseling to help explore academic majors, career options, and long-term career development. Interest inventories, computer-guided career assistance, and career workshops are also available. Another significant resource is Student Development (StDev) 117 (Career Exploration), a credit course that allows students to spend a full semester exploring their interests, abilities, and values and gathering information regarding university majors and subsequent careers. This class is designed to assist students in making career-related decisions and articulating a plan for graduation. Printed, audiovisual, and computer-generated information about career options is available in the Career and Learning Information Center (CLIC) in 149 SWKT, PO Box 25548, (801) 378-2689.

## Cooperative Education and Internships

Cooperative education and internships formally integrate university-level academic study with work experience in cooperating organizations. The combined study-work experiences are offered by academic departments as an extension of regular day school programs. They are designed to complement and strengthen the student's major field of study. In addition to cooperative education internships within the United States, internships in international settings are also available for students who are pursuing majors that focus on international curricula.

Most departments offer cooperative education and internship opportunities that give full-time students a combination of academic learning with a work practicum. Students desiring to register for cooperative education must receive prior departmental approval and complete registration before commencing an internship.

Course offerings vary according to student needs and may include registration in 199R, 299R, 399R, 496R, or 599R courses depending upon department and student objectives. Credit varies according to academic expectations and may range from 1 to 9 semester units. Pass/fail and/or letter grades are based upon academic as well as work performance and course enrollment. In certain circumstances, in addition to or in place of a grade, work performance will be posted in the memorandum section of the student transcript.

Most colleges and departments have cooperative education coordinators. However, for further information concerning the opportunities and benefits of this academic area, contact the university director of Cooperative Education and Internships (110 FOB, PO Box 22364, [801] 378-3337).

## Graduate Studies

To the student seeking advanced study, Brigham Young University offers a variety of graduate degree opportunities. Excellent graduate programs can be found in each of the colleges and schools, and successful completion of one results in the awarding of a master's, doctoral, or professional degree.

The doctoral degree requires the student to demonstrate an impressive scholarly competence, which includes the ability to conduct and report research in a highly effective manner. Advanced systematic study in a discipline is also essential and is followed by comprehensive examinations that require students to integrate and understand the collective knowledge of their disciplines. A dissertation resulting from independent research is defended in a concluding oral examination.

The master's degree requires advanced course work, demonstrated mastery in vital aspects of a discipline, skill in research methodology and theory, and preparation for future creative work. Integrative examinations, a major culminating piece of written work or performance, and an accompanying oral defense of that work are also required. The professional degree likewise demands a high-level performance of students, blending scholarly insight with technical knowledge and skill.

Students who are interested in pursuing advanced degrees are encouraged to become involved in research and creative activities during their undergraduate experience.

## Research and Creative Activities at BYU

One of the most exciting and valuable learning experiences available to both undergraduate and graduate students at BYU is the opportunity to participate in original research and creative activities. BYU has accomplished faculty members in all areas, many of whom enjoy international reputations for the quality of their creative endeavors. Many professors enlist the help of undergraduate students, who work side by side with faculty mentors and graduate students in a laboratory or studio setting. Some departments offer class credit for participation in these projects, and in other situations it is possible to receive remuneration.

A wide variety of research experiences are available in many departments across campus. For example, the student might be involved in the synthesis of a new medicinal drug in the chemistry laboratory or participate in the discovery of a new species of dinosaur on a Colorado mesa. Other examples of programs involving student participation include the study of robotics systems, computer architecture, battery technology, high-energy physics, international business methods, child psychology, drug-induced birth defects, educational methodology, molecular genetics, social implications of drug use, stability and satisfaction in marriage, Church history, and a host of other topics. Students who are interested in participating in research programs are encouraged to contact their major department chair or speak directly with individual professors.

The university offers both recognition and support for undergraduate resarch or creative activities. An annual competition for special research and creative activities scholarships is held each fall semester.

## Student Development Course Work

Brigham Young University offers credit course work that applies to the personal concerns and tasks facing college students. Courses cover such topics as study skills, learning in college, major/career exploration, life planning and decision making, career transitions, and individual development. See the Student Development departmental section of this catalog and the current class schedule for course descriptions and meeting times, respectively. For further information, contact the Department of Student Development (166 SWKT, PO Box 25548, [801] 378-6291).

# Cultural Environment

Students can immerse themselves in culture at BYU. Dance, theatre, music, art exhibits, museums—all await to nourish the soul seeking after "anything virtuous, lovely, or of good report or praiseworthy."

Through the College of Physical Education, BYU sponsors performance groups in folk dance, ballroom dance, ballet, modern dance, and precision marching. Each year these groups perform major concerts on campus and tour throughout the world.

Popular and classical plays and films, as well as original compositions, are offered by the Department of Theatre and Film, the College of Humanities sponsors a weekly International Cinema Program, and from September through March the Music Department presents several recitals and concerts weekly.

## Museum of Art

The Museum of Art was completed and opened during fall 1993. Funded by private donors, the 100,000-square-foot museum is located directly north of the Harris Fine Arts Center. A sculpture garden separates the two buildings, and together they form a striking visual and performing arts center. The museum houses the university's superb collection of paintings, sculpture, decorative arts, works on paper, and historical musical instruments. One major body of work the university owns is by such eminent artists as Mahonri Y. Young, J. Alden Weir, Maynard Dixon, C. C. A. Christensen, and Minerva Teichert. Besides its rich array of American art, the collection encompasses other major styles, including some rare antique prints by Rembrandt, Durer, and Daumier.

Major traveling exhibitions and exhibits from the museum's collections are scheduled on a rotating basis. The museum offers a variety of educational programs for campus and community audiences as well. Included in the Horne Center for the Study of Art are a multimedia theatre, a print study room, a library, a didactic gallery, a seminar room, and classrooms. The museum also features a cafe and bookstore.

## Performing Arts Series

The BYU Performing Arts Series presents some of the most celebrated artists in the world. Concerts and productions are scheduled throughout each year in the de Jong Concert Hall and Madsen Recital Hall of the Harris Fine Arts Center. Season or individual event tickets are available at reduced prices for students, faculty, and staff. For further information contact the music ticket office at (801) 378-HFAC (4322).

In recent years the Performing Arts Series has included:

Winter Solstice
Into the Woods
Dallas Brass
Gail Niwa
Lar Lubovitch Dance Company
Lex de Azevedo
Vienna Choir Boys
Ballet West
King's Singers
Viklarbo Chamber Ensemble
Utah Symphony

## M. L. Bean Life Science Museum

290 MLBM, PO Box 20200

H. Duane Smith, Director
Douglas C. Cox, Assistant Director

The Monte L. Bean Museum is a functional repository for valuable living and nonliving plant and animal collections. It interacts with the academic functions of Brigham Young University to promote and facilitate faculty and student learning plus research to further man's understanding of the past, present, and future. Habitat studies of local as well as exotic plant and animal species, plus a large collection of trophies from North America, Africa, and Asia, are housed and displayed in the M.L. Bean Life Science Museum.

Open Monday through Friday from 10 a.m. to 9 p.m. and Saturday from 10 a.m. until 5 p.m., the museum offers students a broad range of educational opportunities from class research in the various collections to impromptu tours for the casual visitor. School and civic groups are welcome. Admission is free.

## Museum of Peoples and Cultures

Joel C. Janetski, Director (118 ALLN, PO Box 25522)
Marti Lu Allen, Assistant Director (105 ALLN, PO Box 23600)

The Museum of Peoples and Cultures houses, cares for, and performs research on archaeological and ethnographic collections from around the world, with strengths in the Southwest, Mesoamerica, Polynesia, and the Great Basin, especially Utah Valley. The museum also holds a noncirculating library and a photographic archive documenting BYU archaeological research and artifactual materials.

Institutional objectives are to interpret and help elucidate the history and culture of the peoples of the world and to convey that knowledge to the scholarly community as well as to the general public. The museum's strongest commitment lies in serving the teaching and research functions of the university. MPC staff are adjunct to the Department of Anthropology, and a museology class is normally offered each fall and winter semester. Research entities within the museum include the Office of Public Archaeology and the New World Archaeological Foundation. The MPC is an approved state and federal archaeological repository.

The museum's newly remodeled galleries accommodate a program of changing student exhibitions, which are normally developed through the curriculum of its graduate museum practices course. The museum also produces occasional satellite exhibits at other university locations, such as the Museum of Art. Free tours are available by arrangement September through May. Because scheduling is based on student availability, it is advisable to book at least one week in advance ([801] 378-6112). Visitors may choose to guide themselves through the gallery, but groups larger than twenty people should contact the museum in advance for logistical instructions.

Located at 700 North 100 East in Provo (one block south of the Brick Oven restaurant), the museum is open from 9:00 a.m. to 5:00 p.m. Monday through Friday. To take advantage of the Family Night Out Special on Monday evenings (6:00–9:00 p.m.), call for an appointment one week in advance. A security fee of $6.50 per group applies on Monday evenings, but otherwise admission is free and tours are offered free by arrangement. The museum is closed holidays and for two weeks between fall and winter semesters. Office and library hours vary according to student schedules but are generally only half a day.

## Faculty and Student Performances, Exhibitions, and Showcases

Throughout the year the faculty of the Departments of Art, Dance, Design, Music, and Theatre and Film are featured in exhibitions, plays, and musical performances.

As part of their educational experience, students, both individually and in groups, present concerts, exhibitions, films, plays, recitals, and showcases. Theatre Ballet, The Dancers' Company, International Folk Dance Ensemble, Ballroom Dance Company, Philharmonic and Chamber Orchestras, Young Ambassadors, Lamanite Generation, University Singers, and Synthesis Jazz Ensemble are but a few of the groups who

perform in the various university venues. Plays, musical theatre, and opera, as well as art and design exhibitions, are also a part of the outstanding student fare available to the university community.

For further information contact the individual departments, or call the Harris Fine Arts Center ticket office at (801) 378-HFAC (4322).

## Recreational Environment

Students can enjoy the small-town friendliness of Provo or drive 45 miles to the north for the cosmopolitan diversity that Salt Lake City offers. Whereas Salt Lake City is home to Ballet West, the Mormon Tabernacle Choir, and the Utah Symphony, the Provo area prides itself on its own Utah Valley Symphony and several talented community choirs and theatre groups.

### A Great Outdoors

The Wasatch Mountains overlook BYU on the east, and to the west lies Utah Lake. Within an hour's drive are several canyons and ski resorts; six national parks are only a half day away. Outdoor gear can be rented on campus for everything from skiing to windsurfing.

### Athletic Facilities

BYU's athletic facilities are among the best in the nation. Complementing the major sports complexes—the Marriott Center, football stadium, baseball diamond, softball diamond, indoor tennis pavilion, and track and field stadium—are the Richards Building and the Smith Fieldhouse. The Richards Building has facilities for racquetball, volleyball, basketball, aerobics, dance, and swimming, and the Smith Fieldhouse houses ball courts, weight rooms, an indoor track, and a west annex big enough for spring batting practice.

### Intramurals

The campus intramural program, consisting of more than sixty events involving thousands of participants in both men's and women's activities, is one of the largest and most comprehensive in the United States. Students may participate in team activities through a BYU ward or by forming their own team. In individual events students may enter independently or represent a housing unit or ward. The intramural program offers divisions for different skill levels in each activity and provides awards for the winners in each division. Numerous employment opportunities are available as game supervisors and officials.

### Intercollegiate Competition

BYU is a charter member of the Western Athletic Conference (WAC). In fall 1990 the women's athletic program joined the men's program in the Western Athletic Conference, and the High Country Athletic Conference (HCAC) was dissolved. The schools composing the WAC are: Brigham Young University, University of Hawaii, U.S. Air Force Academy, San Diego State University, Colorado State University, University of New Mexico, University of Texas at El Paso, University of Utah, University of Wyoming, Tulsa University, Texas Christian University, Rice University, Southern Methodist University, San Jose State University, University of Nevada—Las Vegas, and Fresno State University. The men's intercollegiate program at BYU consists of twelve sports: basketball, baseball, cross country, football, golf, gymnastics, indoor track, tennis, outdoor track and field, swimming, volleyball, and wrestling. Women at BYU compete in ten intercollegiate sports: basketball, cross country, golf, gymnastics, indoor track, soccer, swimming and diving, tennis, outdoor track and field, and volleyball. BYU has been nationally ranked in many sports and has won national championships in football, golf, and track.

### Extramural Competition

The extramural sports program at BYU provides opportunities for students to participate on an intercollegiate level throughout the United States and Canada in team sports not designated NCAA.

One of the best organized and most respected programs in the country, BYU's extramural sports program offers seven sports for men (soccer, alpine skiing, racquetball, lacrosse, rugby, fencing, and water polo) and five sports for women (softball, alpine skiing, fencing, and racquetball). Many of the teams have been nationally ranked during the last several years.

# Brigham Young University Honor Code

## General Honor Code Statement

*We believe in being honest, true, chaste, benevolent, virtuous, and in doing good to all men. . . . If there is anything virtuous, lovely, or of good report or praiseworthy, we seek after these things* (Thirteenth Article of Faith).

Brigham Young University exists to provide a university education in an atmosphere consistent with the ideals and principles of The Church of Jesus Christ of Latter-day Saints. This atmosphere is preserved through commitment to conduct that reflects those ideals and principles.

As a matter of personal commitment, students, staff, and faculty of Brigham Young University are expected to demonstrate in daily living on and off campus those moral virtues encompassed in the gospel of Jesus Christ, and will

Be honest
Live a chaste and virtuous life
Obey the law
Use clean language
Respect others
Abstain from alcoholic beverages, tobacco, tea, coffee, and drug abuse
And support others in their commitment to comply with the BYU Honor Code.

Specific policies embodied in the Honor Code include: academic honesty, dress and grooming standard, residential living standards, and continuing ecclesiastical endorsement.

## Academic Honesty

The first injunction of the BYU Honor Code is the call to "be honest." Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life's work, but also to build character. "President David O. McKay taught that character is the highest aim of education" (The Aims of a BYU Education, p. 6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim.

BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including plagiarism, fabrication or falsification, cheating, and other academic misconduct:

### Plagiarism

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor. Inadvertent plagiarism, whereas not in violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education, where all members of the university are expected to acknowledge the original intellectual work of others that is included in one's own work. In some cases, plagiarism may also involve violations of copyright law.

*Intentional Plagiarism*—Intentional plagiarism is the deliberate act of representing the words, ideas, or data of another as one's own without providing proper attribution to the author through quotation, reference, or footnote.

*Inadvertent Plagiarism*—Inadvertent plagiarism involves the inappropriate, but nondeliberate, use of another's words, ideas, or data without proper attribution. Inadvertent plagiarism usually results from an ignorant failure to follow established rules for documenting sources or from simply being insufficiently careful in research and writing. Although not a violation of the Honor Code, inadvertent plagiarism is a form of academic misconduct for which an instructor can impose appropriate academic sanctions. Students who are in doubt as to whether they are providing proper attribution have the responsibility to consult with their instructor and obtain guidance.

Examples of plagiarism include:

*Direct Plagiarism*—The verbatim copying of an original source without acknowledging the source.

*Paraphrased Plagiarism*—The paraphrasing, without acknowledgment, of ideas from another that the reader might mistake for your own.

*Plagiarism Mosaic*—The borrowing of words, ideas, or data from an original source and blending this original material with one's own without acknowledging the source.

*Insufficient Acknowledgment*—The partial or incomplete attribution of words, ideas, or data from an original source.

Plagiarism may occur with respect to unpublished as well as published material. Acts of copying another student's work and submitting it as one's own individual work without proper attribution is a serious form of plagiarism.

### Fabrication or Falsification

Fabrication or falsification is a form of dishonesty where a student invents or distorts the origin or content of information used as authority. Examples include:

1. Citing a source that does not exist.
2. Attributing to a source ideas and information that are not included in the source.
3. Citing a source for a proposition that it does not support.
4. Citing a source in a bibliography when the source was neither consulted nor cited in the body of the paper.
5. Intentionally distorting the meaning or applicability of data.
6. Inventing data or statistical results to support conclusions.

## Cheating

Cheating is a form of dishonesty where a student attempts to give the appearance of a level of knowledge or skill that the student has not obtained. Examples include:

1. Copying from another person's work during an examination or while completing an assignment.
2. Allowing someone to copy from you during an examination or while completing an assignment.
3. Using unauthorized materials during an examination or while completing an assignment.
4. Collaborating on an examination or assignment without authorization.
5. Taking an examination or completing an assignment for another, or permitting another to take an examination or to complete an assignment for you.

## Other Academic Misconduct

Academic misconduct includes other academically dishonest, deceitful, or inappropriate acts that are intentionally committed. Examples of such acts include but are not limited to:

1. Planning with another to commit any act of academic dishonesty.
2. Attempting to gain an unfair academic advantage for oneself or another by bribery or by any act of offering, giving, receiving, or soliciting anything of value to another for such purpose.
3. Changing or altering grades or other official educational records.
4. Obtaining or providing to another an unadministered test or answers to an unadministered test.
5. Breaking and entering into a building or office for the purpose of obtaining an unauthorized test.
6. Continuing work on an examination or assignment after the allocated time has elapsed.
7. Submitting the same work for more than one class without disclosure and approval.

## Procedures for Handling Incidents of Academic Dishonesty or Other Academic Misconduct

Faculty are responsible to establish and communicate to students their expectations of behavior with respect to academic honesty and the student's conduct in the course. The responsible instructor shall investigate the incident, determine and take appropriate action, and report to the Honor Code Office the final disposition of any incident of academic dishonesty by completing an Academic Dishonesty Student Violation Report. If the incident of academic dishonesty involves the violation of a public law, e.g., breaking and entering into an office or stealing an examination, the act should also be reported to University Police. If an affected student disagrees with the determination or action and is unable to resolve the matter to the mutual satisfaction of the student and the instructor, the student may have the matter reviewed through the university's grievance process (Student Academic Grievance Procedure).

## Applicable Actions

A wide range of possible actions exist for cases of academic dishonesty. Instructors should take actions that are fair and equitable under the circumstances and should attempt to reach an understanding with the affected student on the imposition of an appropriate action. In some cases, the department, the college, or the university may also take actions independent of the instructor. Examples of possible actions include but are not limited to the following:

**For instructors, programs, departments, and colleges:**

Reprimanding the student orally or in writing.

Requiring work affected by the academic dishonesty to be redone.

Administering a lower or failing grade on the affected assignment, test, or course.

Removing the student from the course.

Recommending probation, suspension, or dismissal.

**For the university:**

The university may elect to place an affected student on probation or to suspend or dismiss the student, and to place a temporary or permanent notation on the student's permanent academic transcript that he or she was suspended or dismissed due to academic misconduct.

The university may report an incident of academic misconduct to appropriate law enforcement officials and may prosecute an affected student if the act in question involves the commission of a crime (e.g., breaking into an office or building, stealing an examination, etc.).

## Honor Code Office Involvement

The Honor Code Office will maintain a record of all violations of the Academic Honesty Policy reported to it by the faculty. If the occurrence is sufficiently egregious or if a pattern of dishonesty or misconduct is discovered, the Honor Code Office may take additional action on behalf of the university based upon the nature of the infraction(s). Only the Honor Code Office, in consultation with the involved academic personnel, may determine to place a student on probation or to suspend or dismiss a student for academic dishonesty and other forms of academic misconduct.

## Shared Responsibility Policy Statement

Students are responsible not only to adhere to the Honor Code requirement to be honest but also to assist other students in fulfilling their commitment to be honest.

## Faculty Academic Integrity

The substantive standards of academic honesty stated in this policy apply *a fortiori* to faculty. Indeed, all members of the BYU community are expected to act according to the highest principles of academic integrity.

## Sources

A large number of publications and policies of colleges and universities were reviewed in creating BYU's Academic Honesty Policy. Some of the content and structure of this policy were adapted from the following sources:

1. "Academic Honesty," a brochure produced by the Office of Judicial Affairs, University of Florida.
2. "Academic Honesty and Dishonesty," a brochure produced by the Office of the Dean of Students, University of Delaware.
3. "Academic Honesty and Dishonesty," a brochure produced by the Dean of Students Office, Louisiana State University.
4. "A Statement on Plagiarism," a committee report from the October 1994 Conference on the Center for Academic Integrity, Tom Langhorne, Binghamton University (chair).
5. "Definition of Plagiarism," by Harold C. Martin, taken from *The Logic and Rhetoric of Exposition*, by Harold C. Martin, Richard M. Ohmann, and James H. Wheatly, 3rd ed. (New York: Holt, Rinehart and Winston, 1969).

6. *Legal Aspects of Plagiarism*, by Ralph D. Mawdsley (Topeka, Kansas: National Organization on Legal Problems of Education, 1985).
7. "Plagiarism—The Do's and Don'ts," a brochure produced by the Office of Student Judicial Affairs of the University of California—Davis.

# Dress and Grooming Standards

The dress and grooming of both men and women should always be modest, neat, and clean, consistent with the dignity of representing Brigham Young University and The Church of Jesus Christ of Latter-day Saints.

Modesty and cleanliness are important values that reflect personal dignity and integrity, through which students, staff, and faculty of BYU represent the principles and standards of the Church. These members of the BYU community commit themselves to observe the following standards, which reflect the direction of the BYU Board of Trustees and the Church publication For the Strength of Youth:

> Clothing should be modest in fabric, fit, and style, and appropriate for the occasion. Skirts and shorts should be knee-length or lower. Clothing which is sleeveless, strapless, or revealing is not acceptable. Shoes should be worn in public campus areas.
>
> A clean and well-cared-for appearance should be maintained. Hairstyles should be clean and neat, avoiding extreme styles. Men's hair should be trimmed above the collar, leaving the ear uncovered. If worn, mustaches should be neatly trimmed. Earrings for men are unacceptable, and beards are not acceptable, except for certified medical reasons.

# Residential Living Standards

As stated in its Code of Honor, Brigham Young University is committed to providing a learning atmosphere consistent with the principles of the Church. The university is likewise committed to creating such an atmosphere for students residing in approved student housing on and off campus. To achieve this, BYU has established living standards to help students learn some of the high ideals and principles of behavior expected at Brigham Young University. Therefore, the university requires students to adhere to the following standards:

## Campus Visiting Hours

**Deseret Towers and Helaman Halls**

Visitors of the opposite sex are permitted in the lobbies but not in the bedroom area, except during an established open house or home evening time, at which times room doors must remain open. Lobby visiting hours begin after 8:00 a.m. and extend until 12:00 midnight. On Friday night, lobby visiting hours extend until 1:30 a.m.

**Heritage Halls**

Visitors of the opposite sex are permitted in the lobbies and apartment kitchens but not in bedrooms or bathrooms. Lobby visiting hours are from 8:00 a.m. to 12:00 midnight daily. Apartment visiting hours are from 10:00 a.m. to 11:00 p.m. Saturday through Thursday and extend until 12:00 midnight on Friday.

## Off-Campus Visiting Hours

Visitors of the opposite sex are permitted in living rooms and kitchens but not in the sleeping-room area in off-campus living units. Visiting hours may begin at 9:00 a.m. and extend until 12:00 midnight. Friday night visiting hours may extend until 1:30 a.m. Landlords may establish a shorter visiting period if proper notice is given to residents. This policy applies to all housing units occupied by single students.

## Conduct

All students shall be required to conduct themselves in a manner consistent with the principles of The Church of Jesus Christ of Latter-day Saints and the BYU Honor Code. Furthermore, all students living in university-approved housing are required to abstain from possessing, serving, or consuming alcoholic beverages, tobacco, tea, coffee, or harmful drugs. Involvement with gambling; pornographic, erotic, or indecent material; disorderly, obscene, or indecent conduct or expressions; or with other offensive materials, expressions, or conduct or disruption of the peace that, in the sole discretion and judgment of the university, is inconsistent with the principles of the Church and the BYU Honor Code is not permitted in student housing. All guests of students must comply with the Residential Living Standards while on the premises of university-approved housing.

## Dress and Grooming Standards

All students in university-approved housing are required to know the dress and grooming standards and abide by them.

## Violations

BYU students failing to maintain the BYU Residential Living Standards will be subject to disciplinary action by the university. Violations of these standards may be reported to the Honor Code Office (337 SWKT, PO Box 25533, [801] 378-2847) or Housing Services (100 SASB, PO Box 21820, [801] 378-2611).

# Continuing Ecclesiastical Endorsement

Every enrolled, continuing student, including graduate students, is required each year to obtain a continuing ecclesiastical endorsement by April 1 from his or her winter semester ecclesiastical leader. LDS students must be endorsed by their winter semester ward-of-residence bishop. Non-LDS students obtain the endorsement from a local ecclesiastical leader of their choice or from the Dean of Student Life's office (380 SWKT, PO Box 25542).

## Requirements

All students must abide by the Honor Code, the Residential Living Standards, and the Dress and Grooming Standards on and off campus.

LDS students must fulfill their duty in The Church of Jesus Christ of Latter-day Saints, attend Church meetings, and abide by the rules and standards of the Church on and off campus.

There is a $20 late fee for endorsements dated after April 1.

## Withdrawn Ecclesiastical Endorsement

A student's endorsement may be withdrawn at any time if the ecclesiastical leader or Student Life endorsing officer determines that the student is no longer eligible for the endorsement. Students without endorsements, except in unusual

circumstances, must discontinue enrollment. Excommunication, disfellowshipment, or disaffiliation from The Church of Jesus Christ of Latter-day Saints results in the withdrawal of the student's endorsement. The decision to withdraw an endorsement may be appealed through the appropriate ecclesiastical channels and then through the university's administrative review process.

# Admissions

Admissions Office (A-183 ASB, PO Box 21110, [801] 378-2507)

## All Applicants

**Admissions Policy:** Students of either sex and of any race, creed, religion, age, or national origin are accepted for admission to BYU provided they maintain ideals and standards in harmony with those of The Church of Jesus Christ of Latter-day Saints and meet the university's academic requirements. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from tobacco, alcohol, and harmful drugs are required of every student.

*Important Notice:* When admission applications reach the maximum number allowed by the BYU Board of Trustees (even if this occurs before the semester or term deadline date), the Admissions Office will only consider applications for the next possible semester or term.

**Social Security Number:** Each applicant is requested to have a social security number for identification on student records. Numbers may be obtained at the nearest social security office or local post office. The Admissions Office will assign an appropriate identification number to international students.

**Full Disclosure:** Failure to disclose and submit all documents required for admission, including transcripts from each institution in which the applicant has or is currently enrolled, or any falsification of information required for admission consideration may result in immediate suspension and loss of all credit earned at BYU.

**Admissions Status and Academic Standing:** Admissions status (accepted or not accepted) and academic standing (good, warning, or probation) will be determined by the Admissions Committee. This review is for all applicants, including former BYU students.

**Official Notice of Admissions Committee Action:** Applicants will receive written notice of the official action taken by the Admissions Committee. (Oral communication does not constitute a valid offer of admission.) Admission can be granted only by the Admissions Office and not by any other BYU department. A letter of acceptance is valid only for the semester or term indicated. Students who wish to change the entry date specified in their letter of acceptance must request permission to do so from the Admissions Committee before the designated deadline for the entry date they desire.

**Admission Deadlines:** All materials must be received by the BYU Admissions Office on or before the deadline date for the semester or term in which the applicant intends to register. These dates are as follows:

**Fall Semester**
New freshman applicants: February 15
Transfer, former, or teacher certification applicants: March 15

**Winter Semester**
All applicants: October 1

**Spring Term**
New freshman applicants: February 15
Transfer, former, teacher certification, or graduate nondegree applicants: March 15

**Summer Term**
New freshman applicants: February 15
Transfer, former, teacher certification, or graduate nondegree applicants: March 15

International students are encouraged to submit application materials ***at least one month before the deadline dates listed.*** This will allow sufficient time for the preparation of visa documents.

## New Freshman Applicants—U.S.

**Application:** The biographical information (part A), ecclesiastical endorsement (part B), high school information and official transcripts from each school attended (part C), activities and essays (part D), and letter of recommendation (part E) are required of each applicant.

**Application Fee:** A $25 nonrefundable application fee must accompany all applications for admission. Checks or money orders should be made payable to Brigham Young University (do not send cash through the mail). The BYU Admissions Office does not accept credit cards.

**High School Graduation:** Applicants should be graduates of fully accredited high schools. Those who complete their secondary education through the General Education Development Test (GED), home study, home school, or other programs will be reviewed individually by the Admissions Committee to determine admissibility. Additional information (achievement tests, personal interview, etc.) may be required as part of the application process.

**High School Preparation:** Students are encouraged to complete high school courses from the following list of college-preparation courses. Of particular importance are English and mathematics. Writing and math skills are basic for critical thinking. Completing courses on the list will assist in preparing students for university study and will be given additional consideration in admission decisions. Students who perform well in Advanced Placement, International Baccalaureate (IB), or college preparatory classes, where available, enhance their possibility of admission.

Four years of English: composition, grammar, and courses that encourage "writing to learn."

Three to four years of mathematics (two or three years beyond algebra 1): geometry, intermediate algebra, precalculus, trigonometry, calculus.

Two years of laboratory science: chemistry, physics, biology, physiology, anatomy, genetics, botany, zoology.

Two years of history or government: U.S. history, U.S. constitution, U.S. government, Civil War, world history, medieval history, ancient history.

Two or more years of foreign language (advanced skill in one language is preferred).

Two years of literature or writing: Shakespeare, classics, mythology, American literature, creative writing.

Courses such as computer science, the arts (music, drama, painting, etc.), and other worthwhile choices can prove beneficial for students, although they are not given additional weight in the admission process. Students should be careful to take classes with substantial content that challenge them. In today's world typing and computer skills are valuable assets. These skills should be learned in high school or independently.

**LDS Seminary:** Students are encouraged to participate in LDS Seminary during each year of high school. Brigham Young University is committed to the concept that thoughtful and consistent study of the scriptures is vital to the preparation of those desiring to enter BYU. The number of years of LDS Seminary completed (released time, early morning, or home study) will be given additional consideration in admission decisions.

**American College Test (ACT):** All new freshman applicants and transfer students with less than 32 semester hours are required to take the ACT. The ACT is administered nationally five times each year (October, December, February, April, and June). Students are encouraged to take the test during the last semester of their junior year in high school. The test should be taken early enough for the results to be in the Admissions Office before the deadline for the semester in which a student intends to enroll. Test results arrive at the university approximately four weeks after the test is given. Applicants must register for the ACT at least one month in advance of the test date. Registration materials can be obtained from most high school or college counseling offices or from the American College Testing Program, PO Box 414, Iowa City, IA 52243, (319) 337-1270.

**Other Considerations for Admission:** The Admissions Committee also considers applicants with special talent, exceptional creativity, or other unusual preparation for university study not otherwise revealed in standard admission data. In evaluating these criteria, the Admissions Committee relies on scholarship recommendations from a BYU department as a demonstration of the required talent, creativity, or unusual preparation. The Admissions Committee also uses part D (activities and essays) and part E (letter of recommendation) of the application in making an evaluation. The committee may also consider such matters as mission, military service, career choices, and particular personal circumstances.

### Early Admission

High school students who would like to be considered for admission to Brigham Young University before high school graduation must:

1. Have a cumulative high school grade point average of 3.6 (B+) or higher on all work to date.
2. Achieve a composite standard ACT score of 27 or higher.
3. Submit a letter of unconditional recommendation for early admission from their high school counselor or principal. This letter must verify the student can no longer benefit from high school attendance since high school courses do not properly challenge and motivate the student. The counselor or principal must also state that the student is academically prepared and has the emotional and social maturity to benefit from attendance at BYU.
4. Submit a letter of unconditional recommendation for early admission from the applicant's parents.
5. Complete all application requirements (see application procedures for freshman applicants).

Application deadline dates for early admission are the same as for new freshman applicants.

### Concurrent Enrollment at BYU

High school students who would like to be considered for admission to Brigham Young University as a part-time student while still enrolled in high school must:

1. Have a cumulative high school grade point average of 3.6 or higher on all work to date.
2. Submit a BYU concurrent enrollment voucher signed by the applicant, the parent, and a high school counselor.
3. Have completed at least the junior year of high school.
4. Complete Parts A and B of the admission application and submit the $25 application fee.

**Concurrent Credit Transfer Policy:** Many students are now receiving enriched high school experiences by enrolling concurrently in college courses while completing their high school curricula. BYU will consider these students for freshman admission and scholarships provided they complete no more than 31 semester/47 quarter hours of concurrent work before enrollment at BYU. This means that they may receive consideration for BYU-sponsored National Merit and Howard W. Hunter Scholarships.

Students who accumulate 32 semester/48 quarter hours of concurrent work before enrollment will be considered as transfer students for admission and scholarships.

Students admitted to BYU as freshmen who before enrollment complete 32 semester/48 quarter hours of concurrent course work or who enroll at a college or university other than BYU following high school graduation will be redesignated as transfer students. Their admission and scholarship status will be reevaluated based on BYU's transfer student criteria. Such reevaluation may result in the withdrawal of a previously awarded freshman scholarship.

College credit received for successfully completed AP examinations, IB examinations, CLEP examinations, or concurrent work taken at BYU is excluded from the 31 semester/47 quarter hours limit.

Concurrent course work that may receive credit at BYU includes:

1. College courses taken at a college or university campus.
2. College courses taken at extension centers.
3. College courses taken at high schools after regular hours.

Credit awarded by other institutions for classes taught in the high schools during the regular high school day will *not* transfer to BYU.

## Transfer Applicants—U.S.

**Application:** The biographical information (part A), ecclesiastical endorsement (part B), activities and essays (part D), and letter of recommendation (part E) are required of each applicant.

Students with fewer than 32 semester hours (48 quarter hours) of transfer credit at the time of application must also submit official high school transcripts (part C) and the results of the American College Test (ACT).

**Application Fee:** A $25 nonrefundable application fee must accompany all applications for admission. Checks or money orders should be made payable to Brigham Young University (do not send cash through the mail). The BYU Admissions Office does not accept credit cards.

**Admissions Criteria:** To be competitive, an applicant should have both a cumulative grade point average and a general education grade point average *above* the 3.0 (B) level. In addition, the majority of the transfer course work should be general education subjects (English, math, history, science, etc.). It is recommended that students transfer before beginning their junior year of college (or before completing more than 80 semester hours of course work). Additional consideration may be given to applicants with special talent, exceptional creativity, or other unusual preparation for university study not otherwise revealed in standard admissions data. In evaluating these criteria, the Admissions Committee relies on scholarship recommendations from a BYU department as a demonstration of the required talent, creativity, or unusual preparation. The Admissions Committee may also consider such matters as completing an LDS mission, military service, major selection, particular personal circumstances, and the response to part D of the application (activities and essays).

**Evaluation of Transfer College Credit:** All credits received at another college may be evaluated to determine admissibility of an applicant even if that credit is not accepted for transfer.

Factors on which credit will be considered to transfer to BYU include:

1. The institution is accredited by one of the following regional associations or is an institution sponsored by The Church of Jesus Christ of Latter-day Saints.

   Middle States Association of Colleges and Schools
   New England Association of Colleges and Schools
   North Central Association of Colleges and Schools
   Northwest Association of Colleges and Schools
   Southern Association of Colleges and Schools
   Western Association of Colleges and Schools

   Credit from institutions that are candidates for accreditation by one of the associations will be reviewed on a case-by-case basis, but credit is generally not transferable.

2. Military courses are evaluated using the ACE recommendations in the upper-division baccalaureate category from the Guide to the Evaluation of Educational Experiences in the Armed Services.
3. Most Advanced Placement scores of 3, 4, 5, IB scores of 5, 6, or 7, and CLEP scores of 610 or higher. Credit will be awarded according to BYU standards.

Credit awarded by other institutions for classes taught in the high schools during the regular high school day will not transfer to BYU.

Credit earned more than eight years before admission or readmission (including transfer credit) will be accepted to meet General Education and university graduation requirements, as well as major requirements at the discretion of the university. Courses should be applicable to BYU General Education and university graduation requirements as well as to major requirements. Furthermore, transfer courses with grades below C– will not be used to fill BYU General Education requirements and in most instances will not fill major requirements.

Course equivalency to BYU classes will be evaluated on all transfer credit.

Students who have been accepted into BYU and think they have obtained the necessary knowledge and skills are invited to challenge courses through individual departments at BYU for university credit.

The BYU Admissions Office will determine the transferability of undergraduate credit to BYU. A written evaluation of transfer credits is mailed to each student by the Academic Advisement Office soon after the student is accepted for admission. The evaluation indicates which classes have transferred and will fill General Education and university graduation requirements as well as major requirements.

## Former Student Applicants

BYU day students can interrupt their studies for one semester (fall or winter) by submitting a continuing student deferment form. Students wanting to serve an LDS mission can defer their admission status by submitting a mission deferment form. Both forms are available from the Admissions Office. (See Deferment below.)

Students who interrupt their studies for more than one semester (except missionaries) must reapply for admission by submitting the following materials:

**Application:** The biographical information (part A) and ecclesiastical endorsement (part B) are required of each applicant.

**Official Transcripts:** Applicants are required to provide and identify official transcripts from each school attended since the student's last enrollment at BYU. Students will be evaluated for readmission based on their post-BYU transfer GPA and their BYU academic standing.

Transfer classes will be evaluated on a course-by-course basis. The course must be substantially equivalent to a BYU course, with a grade of C– or higher, to apply toward appropriate university or major graduation requirements.

**Past Record:** All holds (i.e., financial, Honor Code) placed on the student's record by BYU must be cleared before the deadline for the application to be considered. Additionally, the student must reimburse BYU for any fees incurred to collect the student's past debts.

**Note:** International students must also provide proof of current finances.

## Deferment

Current students and admitted applicants who elect to serve an LDS mission may defer admission until returning from their mission. A deferment form must be submitted prior to entering the Missionary Training Center. Admission and scholarship will be deferred until the next available entry date after completing an honorable full-term mission.

Current students may elect to interrupt their studies for one semester by submitting a current student deferment form. Students who use this form will maintain their admission status without reapplying. International students who wish to defer admission must meet the requirements outlined on the international student deferment form.

The missionary, current student, and international student deferment forms are available from the Admissions Office.

## International Student Applicants

A separate application is required for all applicants who are not citizens of the United States. Please contact the Admissions Office for international application materials.

**Admissions Considerations:** Criteria used by the university Admissions Committee to evaluate international students' admission to Brigham Young University are:

1. Academic performance
2. Level of education completed
3. TOEFL test results
4. ACT or SAT test scores
5. Ability to finance desired education
6. Ecclesiastical endorsement

In addition to the above, factors considered in granting admission to international transfer students are the grades or marks of all previous university and college work. If the applicant has less than one year's work at a university, secondary school marks will also be reviewed.

An entering freshman student must send official documents showing all secondary school marks and final diploma. An official English translation of the documents is also required.

**Application:** The biographical information (part A), ecclesiastical endorsement (part B), activities and essays (part D), letter of recommendation (part E), official transcripts, and financial information are required of each applicant. TOEFL test results are required for nonnative English speakers, including U.S. citizens and permanent residents.

**Application Fee:** A $25 nonrefundable application fee must accompany all applications for admission. This fee cannot be waived. Checks or money orders (U.S. funds drawn on U.S. banks) should be made payable to Brigham Young University (do not send cash through the mail). The BYU Admissions Office does not accept credit cards.

**American College Test (ACT) or Scholastic Aptitude Test (SAT) Scores:** The results of these tests must be sent as part of the application materials. Test information can be obtained by writing to:

American College Test Information
PO Box 414
Iowa City, IA USA 52243

or

Scholastic Aptitude Test
Educational Testing Service
Princeton, NJ USA 08540

**Note:** The SAT is accessible in most foreign countries.

**English:** All nonnative English-speaking applicants must send official results of the TOEFL exam to BYU. Applicants need to have a total TOEFL score of 500 or higher, with no section score below 50. TOEFL scores below 500 or section scores below 50 will not be sufficient for admission consideration. Tests must be on official international test dates. Institutional tests are not acceptable.

Bilingual students who are admitted to BYU must take an English diagnostic examination during the orientation period. Based on the results of the test, a student may be required to register for one or more specific English courses, designed to improve areas of low proficiency.

**Registration and Completion Requirements:** All international students in attendance must register for and complete at least 12 hours of daytime credit per semester (6 hours per term).

**Official University Visa Policy:** Applicants entering the United States on a B visa are ineligible to attend Brigham Young University. Students should not attempt to enter the United States to attend BYU as a full-time student without presenting a Form I-20 from BYU (Certificate of Eligibility), a valid passport, and a valid F-1 visa.

**Note:** All international students must report to International Student Support (350 SWKT, PO Box 25520, [801] 378-2695) within one week after arrival on campus.

## Teacher Certification (For Students with a Baccalaureate Degree)

Applicants who have graduated with a baccalaureate degree and who are interested in obtaining initial teacher certification must have at least a 3.0 (B) grade point average to be considered.

### Elementary Education Certification

Students desiring to certify as elementary teachers should contact Dane S. Rigby at (801) 273-3430 for application procedures. Applications are handled through the Elementary Education Department rather than the BYU Admissions Office. All elementary education certification classes are held at the BYU Salt Lake City Center. For transcript evaluation, please contact John Udarbe at (801) 378-4855 in the College of Education Advisement Center.

### Secondary Education Certification

Students desiring to certify as secondary teachers must complete an undergraduate application. In addition, a separate form titled "Application as a Nondegree Graduate Student to Certify in Secondary Education" is required. Applicants are asked to provide transcripts from all colleges attended, submit two letters of recommendation, attach a statement outlining their proposed length of study, and supply a biographical sketch. Application and certification forms are available in the BYU Admissions Office (A-153 ASB). Admission, if granted, will be for specified enrollments to be determined at the time of acceptance.

**Note:** International applicants (unless Canadian citizens or permanent residents of the United States) cannot attend BYU for teacher certification.

## Graduate Nondegree Applicants

Applicants who have a baccalaureate degree who are interested in attending BYU as a graduate nondegree student should have at least a 3.0 (B) grade point average. Because of enrollment constraints, graduate nondegree applicants must limit their registration to spring and summer terms only.

Registration for courses will be on a space-available basis. Applicants should complete an undergraduate application and attach a statement explaining the purpose in seeking enrollment and the courses to be taken. For application procedures, please refer to the preceding Transfer Applicants—U.S. and Former Student Applicants sections.

**Note:** International applicants (unless permanent residents of the United States) cannot attend BYU as nondegree students.

## Second Degree (Second Major/ Additional Major)

Students who have already received a baccalaureate degree or higher from any institution, including BYU, are not eligible for admissions consideration to pursue another associate or baccalaureate degree or major.

## Advanced Placement (AP) Credit

Students who complete the Advanced Placement examinations offered to high school seniors and score a composite grade of 3 or higher in any subject may be granted up to 8 semester hours of college credit in that subject. AP credit posted to another institution's transcript is reevaluated based on BYU's standard.

## International Baccalaureate (IB) Credit

Students who complete the International Baccalaureate examinations may receive college credit. An IB course at the subsidiary level will normally be given 3 hours of general credit. An IB course completed at the higher level may receive 6 hours of general credit and possibly fill a general education requirement.

## College Level Examination Program (CLEP) Credit

BYU will grant 3 semester hours of credit in each general examination in which a student scores 610 or higher. CLEP credit posted to another institution's transcript is reevaluated based on BYU's standard.

# Tuition and Fees

Cashiers' Office (D-155 ASB, PO Box 21128, [801] 378-7808)

*Tuition and class fees are due and payable before a student begins class attendance. Students who fail to pay tuition by the scheduled final day to late register will jeopardize their eligibility to enroll for the following semester/term.*

Any prior unpaid student account charges must be cleared before a new registration may be completed. Tuition and fees payment must be tendered in U.S. dollars.

**Once students register for classes, they are officially enrolled and committed to attend. Students who decide not to come must withdraw from classes since registration will remain on their record until discontinuance is accomplished.**

Classes may be dropped using the discontinuance action code (see the inside front cover of the current class schedule for instructions) until midnight of the day before classes begin. On the first day of classes and thereafter students will need to contact the Discontinuance Office (B-150 ASB, PO Box 21114, [801] 378-7705). Those who do not drop their classes will retain them on their records and *will be charged tuition.* Tuition will be charged from the first day of classes to the date of discontinuance at the percentage rate listed under the Refund Rate Schedule that follows on the next page.

Students who anticipate receiving financial aid will be held responsible to pay tuition charges incurred whether or not financial aid is available or forfeited.

Students are responsible to determine their correct enrollment status for tuition charges. Questions regarding tuition and fee assessment should be addressed to Financial Services (D-148 ASB, PO Box 21128). The university reserves the right to change tuition and fees without notice.

When total credit hours include a fraction, it is rounded up to the next whole hour for tuition assessment. The tuition paid as a part-time undergraduate student does not entitle the student to health service, student activity privileges, or physical education suit and facility privileges.

*The charge for noncredit courses or for auditing courses is the same as for credit courses.* Noncredit courses taken by part-time students will be assessed on the basis of hours involved in lecture classes. For example, 3 hours of lecture a week would be considered 3 semester hours and would be charged for accordingly. Therefore, students taking 7 credit hours plus a noncredit class involving 2 or more lecture hours per week would be considered full-time students for tuition purposes only and be charged accordingly. For courses in which no lecture hours are involved—for example, dissertations and theses—tuition and fees will be based on hours being carried during the semester, as determined by the supervising professor.

*Graduate students (for tuition assessment)* are those who have received their first bachelor's degree (or will have received it by the beginning of the semester for which they are registering) and are not students of the Law School or the Graduate School of Management.

*Full-time status (for tuition assessment)* for all students is registration for 8.5 or more credit hours per semester or for 4.5 or more credit hours per term.

## Tuition and General Fees*

| Per Semester (fall or winter) | | Per Term (spring or summer) | |
|---|---|---|---|
| LDS | Non-LDS | LDS | Non-LDS |
| **Undergraduate Students** | | | |
| Full-Time | | | |
| $1,265 | $1,900 | $400 | $600 |
| Part-Time (per credit hour) | | | |
| $130 | $195 | $80 | $120 |
| **Graduate Students** (other than students in the Law School and Graduate School of Management) | | | |
| Full-Time | | | |
| $1,490 | $2,235 | $745 | $1,117 |
| Part-Time (per credit hour) | | | |
| $165 | $248 | $165 | $248 |
| **Graduate School of Management and Law School Students** | | | |
| Full-Time | | | |
| $2,380 | $3,570 | $1,190 | $1,785 |
| Part-Time (per credit hour) | | | |
| $264 | $396 | $264 | $396 |

*A significant portion of the cost of operating the university is paid from the tithes of The Church of Jesus Christ of Latter-day Saints. Therefore, students and families of students who are tithe-paying members of the Church have already made a contribution to the operation of the university. Because others will not have made this contribution, they are charged a higher tuition, a practice similar in principle to that of state universities charging higher tuition to nonresidents.

**Non-degree-seeking students pay graduate tuition.

## Tuition Adjustment—Status Change Between Part-Time and Full-Time

After classes begin, a part-time student who increases the number of credit hours and remains a part-time student must pay tuition for these additional hours *on the day they are added.* If this is not done, a late fee may be assessed. A change to full-time status requires that additional tuition be paid, plus the late fee.

A full-time student dropping to part-time or a part-time student who decreases credit hours may be entitled to a tuition refund. A refund request must be initiated by the student through the Financial Services Office (D-151 ASB, PO Box 21128). A full refund of the difference between full-time

assessment and part-time assessment will be allowed until the scheduled last day for adding classes. Refunds for courses dropped after that date will be subject to the refund rate schedule listed under Tuition Charge/Refund—Discontinuance.

### Late Tuition Payment Fee

Late tuition payment fees will be assessed full-time and part-time students for failure to pay tuition by scheduled deadlines. The late fee will also be assessed students who pay less than full-time tuition by the deadline but who are then or later become registered for full-time status. (See current class schedule for deadline dates.)

Semester
- Before semester begins . . . . . $50
- After semester begins . . . . . 90

Term
- After tuition deadline . . . . . 25

Students whose tuition check is dishonored by the bank will be charged the late fee in effect at the time the check is redeemed.

## Tuition Charge/Refund—Discontinuance

When a student officially discontinues from the university, a partial refund of tuition and fees paid may be appropriate. Any refund due will be paid by check, through the mail, approximately 10 days from the date on which the student requests discontinuance. Any unpaid university charges will be deducted from the refund amount.

Refunds will not be paid to students whose tuition has been paid by a university loan, scholarship, or benefit.

If a student discontinues or drops in status from full-time to part-time and has received a Stafford Loan, federal regulations require the school to return a portion of any institutional refund due the student to the lending institution through which the student received the loan.

**Note:** Late fees are nonrefundable.

The amount of the refund a student will receive is based on the date a student reports such discontinuance to the Discontinuance Office (B-150 ASB, PO Box 21114). The following rates apply to both tuition and class fee refunds:

### Refund Rate Schedule

See current class schedule for specific dates.

| | Tuition Charged | Tuition Refunded |
|---|---|---|
| Before first day of classes | None | 100% |
| First week of classes | 10% | 90% |
| Second week of classes | 15% | 85% |
| Third week of classes | 20% | 80% |
| Fourth week of classes | 25% | 75% |
| Fifth week of classes | 30% | 70% |
| Sixth week of classes | 35% | 65% |
| Seventh week of classes | 40% | 60% |
| Eighth week of classes | 45% | 55% |
| Ninth week of classes | 50% | 50% |
| Tenth week of classes | 55% | 45% |
| Thereafter | 100% | None |

**Note:** Exception by petition to the above refund schedule will be considered for students forced to discontinue because of medical incapacitation after the 85 percent refund period. Petition forms are in D-208 ASB, PO Box 21128.

### Refunds for Class Fees

Class fee refunds are based on the same schedule as listed for tuition refunds. Those with an asterisk (*) are exceptions to this schedule and must be applied for at the respective academic department.

### Class Fees

- AgHrt 112 . . . . . $ 45
- AgHrt 312 . . . . . 60
- AnSc 124, 231R, 331R (equitation) . . . . . 150
- Army ROTC Leadership Laboratory . . . . . 16
- *Chemistry deposit (all labs except 353, 354, 455) . . . . . 30
- *Chemistry deposit for Chem 353, 354, 455 . . . . . 40
- CITx 285 . . . . . 40
- *Geol 410 . . . . . 150
- *Geol 412, 436 . . . . . 350
- ISys 98 . . . . . 25
- Ling 98 . . . . . 25
- Math 97 . . . . . 75
- MCom 98 . . . . . 25
- Music 160R, 260R, 360R, 460R, 560R, 660R . . . . . 200
- PE 116, 117 (bowling) . . . . . 35
- PE 124 (equitation) . . . . . 150
- PE 161, 162, 164 (skiing) . . . . . 35
- RMYL 199R . . . . . 80
- RMYL 480 . . . . . 100

### Student Teaching/Practicum Fees

- ElEd 310R . . . . . $30
- ElEd 358 . . . . . 20
- ElEd 360 . . . . . 10
- ElEd 362 . . . . . 20
- ElEd 370 . . . . . 15
- ElEd 496R . . . . . 75
- FamSc 322 . . . . . 10
- FamSc 424 . . . . . 30
- FamSc 425 . . . . . 55
- ScEd 476R, 496R . . . . . 100
- EPsy 380R . . . . . 20
- EPsy 480R, 481R . . . . . 10
- EPsy 496R, 581R, 582R, 584R, 586R, 680R . . . . . 60

Pay above fee when applying for student teaching. An additional $10 late fee is assessed if application is completed after March 31 for fall semester, October 31 for winter semester, or January 31 for spring and summer terms. The $10 late fee is not refundable under any circumstances. Cancellation of the student teaching/practicum applications will result in forfeiture of one-half the fee.

### Materials/Service Fees

Fee payment cards are available in the following classes for materials and services used:

CITx 488.
CM 155, 210, 211, 217, 218, 241, 305, 408, 411, 412, 426, 494R.
ECEn 220, 311.
EET 103, 136, 228, 231, 322, 342, 343, 345, 443, 447.
TecE 120, 140, 149, 150, 160, 200, 205, 209, 229, 240, 250, 251, 260, 270, 281, 300, 301, 315, 319, 325, 329, 354, 360, 386, 387, 388, 400, 405, 450, 453, 455, 477, 489, 490R, 505, 535, 593R.
ThF 280, 380, 480R.
VACor 133.
VAStu 104, 105, 106, 204R, 205R, 206R, 216, 217, 218, 219, 349R, 350R, 351R, 354R, 355R, 356R, 358R, 359R, 450R, 451R, 456R, 459R, 656R, 659R.

## Miscellaneous Fees and Fines

| | |
|---|---|
| Admission evaluation fee (nonrefundable) | $ 25 |
| Bicycle registration (Provo City license) | 3 |
| Change of registration fee (for each class dropped) | |
| First day of classes | Free |
| Second day of classes | Free |
| Third day of classes | 3 |
| Fourth day of classes | 4 |
| Fifth day of classes | 5 |
| Sixth day of classes | 6 |
| Seventh day of classes | 7 |
| Eighth day of classes | 8 |
| Ninth day of classes | 9 |
| Tenth day and thereafter | 10 |
| Dishonored check charge | 15 |
| Duplicate activity card | 10 |
| Ecclesiastical endorsement late fee | 20 |
| Examination through Testing Center (to exempt a student from taking a required class) | 10 |
| Examination, special equivalency, nonrefundable fee to take exam | 20 |
| FSN-dietetics insurance and ADA dues | 48 |
| Graduation fee (nonrefundable) | |
| Bachelor's degree | 15 |
| Master's degree | 20 |
| Doctoral degree | 25 |
| Identification photo | 3 |
| Incomplete grade contract fee | 10 |
| National League of Nursing Diagnostic Exam | 30 |
| Physical education locker | 5 |
| Records search fee (Cashier's Office) | 1 |
| Spouse activity card (nonrefundable) per semester | 6 |
| Thesis binding (four copies) | 11–15 |
| Traffic violation fines, variable according to violation | 10–50 |
| Transcript fee (pay at Records Office) | 2 |

## Health Insurance Requirement

BYU requires all full-time students (8.5 credit hours or more for a semester; 4.5 credit hours for a term) to carry adequate medical insurance. Enrollment in the BYU Student Health Plan satisfies the university's insurance requirement, as does enrollment in a group medical plan provided by a student's employer or the spouse's or parent's employer. For any other medical insurance plan to meet this requirement, it must:

1. Provide at least 70 percent coverage for all major medical expenses, including physician, hospital, and ancillary service.
2. Have an individual annual deductible of no more than $500.
3. Have an annual plan limit of no less than $25,000.

Full-time students must either enroll in the BYU Student Health Plan or provide verification of other adequate insurance coverage. Students who do not return a properly completed waiver form to BYU each semester or term will be automatically enrolled in and assessed the appropriate premium (single or married student rate) for the BYU Student Health Plan. Insurance forms and payment are due by the tuition payment deadline each semester or term.

## Debt Collection Fees

Students' past-due debts are referred to Financial Services for collection. If the BYU collection officer is unable to collect the debt within a reasonable time, the debt will be referred to an outside collection agency. In addition to paying the debt, the student debtor will be required to reimburse the university for such collection agency fees before obtaining a release of a financial hold on his or her transcript or before being considered for readmission. Also, eligibility for graduation may be delayed or denied.

## Estimated College Expenses

Educational expenses have been deliberately kept at a minimum at BYU. At a time when yearly costs at public universities average about $5,000 and private university expenses average about $12,000, BYU continues to offer a unique, high-quality education for much less. This is possible because of Church financial support, which covers a significant portion of the university's total expenses. A single undergraduate student at BYU may expect the following approximate basic costs:

| Fall Semester | Winter Semester | Spring Term | Summer Term |
|---|---|---|---|
| *Tuition and fees | | | |
| $1,265 | $1,265 | $400 | $400 |
| Board and room | | | |
| 1,965 | 1,965 | 980 | 980 |
| Books and supplies | | | |
| 475 | 475 | 225 | 225 |
| Personal expenses | | | |
| 665 | 665 | 330 | 330 |
| Transportation | | | |
| 595 | 595 | 300 | 300 |
| **Totals** | | | |
| $4,965 | $4,965 | $2,235 | $2,235 |

*Tuition for non-LDS undergraduate students is $1,900 for each of the fall and winter semesters and $600 for each of the spring and summer terms.

*On entering the university, students are responsible for making arrangements to cover enrollment expenses and should have sufficient funds on hand for at least the first semester.* University financial aid is available to supplement savings only through one or more of the following programs: scholarships and awards, student loans, Pell Grants, and student employment.

# Financial Aid and Scholarships

Financial Aid and Scholarship Offices (A-41 ASB, PO Box 21009, [801] 378-4104)

Over the past decade the cost of obtaining an excellent university education has increased considerably. As a result, many students and their families have found it difficult to obtain the funds to pursue an education. The university is sensitive to this situation and to those students who are hard-pressed to finance their studies. Major changes have been made by the university to improve the delivery system through which students can receive financial aid. There is a firm commitment to assist those who truly need the resources to further their studies.

Financial aid at BYU comes from various federal, state, and university programs in the form of loans, scholarships, and grants. The Financial Aid Office coordinates these financial aid programs and assists students in identifying the financial resources for which they might qualify. Because the number of students applying for financial assistance usually exceeds the funds available through university and federal programs, the distribution of financial aid at BYU is based on an assessment of the student and family's financial need. There are some exceptions to need-based awarding; e.g., BYU academic scholarships, performance and talent and athletic awards, and BYU short-term loans are not based on need.

The process of determining a student's eligibility for financial aid is called *need analysis*. In a need analysis, income and asset information from both student and parents is examined to determine the family's ability to contribute toward educational costs. This figure, called the *family contribution*, is subtracted from what it will cost the student to attend BYU for a specific length of time (typically, one academic year). If the cost of education is more than the family can contribute, the student has *financial need*.

BYU uses the government need analysis form, Free Application for Federal Student Aid (FAFSA), in determining how much the student and family should contribute. All students applying for financial aid must complete this form and the BYU Financial Aid Application. The application process is not complete until the results of the FAFSA have been received by the BYU Financial Aid Office.

Even though a standard formula is used to analyze a student's financial situation, the Financial Aid Office carefully considers the individual circumstances of each student applying for aid.

Applying for financial aid is complicated and time consuming. Considerable delays and frustrations can arise from filling out forms incorrectly or failing to submit the proper documents in a timely manner. Students and their parents are encouraged to read instructions carefully and to complete all forms and documents correctly. Professional counselors in the Financial Aid Office are available and eager to assist in answering questions and helping with the application process.

## Eligibility Requirements

Any student who is admitted to BYU day school, who is in a degree-seeking program, and who is making satisfactory academic progress is eligible to apply for financial aid. Students who have their baccalaureate degree and are returning to receive a teaching certificate may also apply for financial aid if they have a 2.0 GPA and are admitted to the teacher certification program. Applicants for federal financial aid (Pell Grants, Stafford Loans, and PLUS) must be U.S. citizens or eligible noncitizens. Contact the Financial Aid Office if you have any questions as to your eligibility.

## Scholarships

Brigham Young University offers scholarships to select students who have demonstrated a serious commitment to academic excellence as an investment in their education. Scholarship funds are provided through the tithes of the LDS Church and the offerings of private individuals. The gift of a scholarship assumes an obligation on the part of the recipient to use that investment to prepare for expanded and purposeful service in the Lord's kingdom.

Although the contributions of the Church and others have been generous, funds are still insufficient to invest in all students. Consequently, policies and procedures have been established to ensure fairness in awarding available scholarship funds consistent with the university's aims and donors' wishes. For additional information about policies and procedures, contact the Scholarship Office.

### Academic

The majority of BYU scholarships are awarded to students based on academic merit. Specific consideration criteria are computed after application deadlines. The number of awards each year depends on the applicant pool and available funds. By the junior year, applicants must have officially declared a major. Applicants will be considered for the following awards:

| Scholarship | Duration | Annual Stipends |
|---|---|---|
| University Scholarship (full LDS tuition) | 1 year | $2,530 |
| University Scholarship (half LDS tuition) | 1 year | $1,265 |

### New Freshman Students

Academic scholarships are based on an in-depth review of a student's academic preparation in high school. Areas evaluated include ACT scores, grades, the types of courses completed, and LDS Seminary participation. College preparatory classes such as English, mathematics, American history, biology, chemistry, physics, and foreign languages, along with Advanced Placement (AP) or honors courses taken in these areas, carry additional weight. Generally, freshman scholarship recipients have ACT scores in the high 20s or above and GPAs of at least 3.70. They also have completed a substantial number of the college prep classes listed above.

Besides the University Scholarships, applicants may apply for the three prestigious scholarships below, granted they meet the minimum requirements:

| Scholarship | Duration | Annual Stipends |
|---|---|---|
| Gordon B. Hinckley Presidential Scholarship | 4 years | $3,800 |
| Trustees Scholarship | 4 years | 2,530 |
| BYU-Sponsored National Merit Scholarship | 4 years | 2,530 |

The *Gordon B. Hinckley Presidential Scholarship* bears the name of the President of The Church of Jesus Christ of Latter-day Saints and is awarded annually to twelve young women and twelve young men who have shown superior scholastic and personal achievement. Applicants must be an LDS high school senior and have a minimum unweighted grade point average (GPA) of 3.85 and a composite ACT score of 31 or higher. If the ACT score is 32 or higher, a student may still be considered if the unweighted GPA is at least 3.50. Potential candidates must submit a separate Gordon B. Hinckley Presidential/Trustees Scholarship application by January 15. To obtain this application, contact the Scholarship Office, A-41 ASB, PO Box 21009, Provo, UT 84602-1009, telephone (801) 378-4104.

*Trustees Scholarships* are offered to applicants who demonstrate distinctive achievement in academic and extracurricular endeavors. Recipients are chosen based on the information provided in the Gordon B. Hinckley Presidential/Trustees Scholarship Application.

*National Merit Scholarships* are offered on the basis of high scholastic achievement to incoming freshmen currently enrolled in high school. To be considered, candidates are invited by the National Merit Corporation to apply for the scholarship through their high school. Invitations are based on PSAT scores. Candidates must then be selected as finalists by the National Merit Corporation and have listed BYU as their preferred school. In selecting students for sponsorship, BYU will also consider the finalists' high school credentials, including grades and curriculum. Finalist status does not guarantee a scholarship.

## New Transfer Students

Academic scholarships are evaluated according to academic performance at the previous institution(s). Primary factors in the evaluation include grade point average (GPA) in general education and major courses; the number of courses completed per enrollment; and whether the institution is a junior or community college or a four-year college or university. Generally, candidates must have a GPA of 3.85 or higher to be considered. Those transferring to BYU with fewer than 32 semester hours (48 quarter hours) of college credit will also be evaluated on their high school credentials.

## Former and Continuing Students

Academic scholarships are based on overall scholastic performance. Primary considerations include grade point average (GPA) and the number of hours completed per enrollment.

### Fall/Winter

The Scholarship Committee will consider the GPA earned at BYU through winter semester 1996 and average course load per enrollment. If an applicant has attended other institutions in addition to BYU, the cumulative GPA will also be considered. To qualify for an academic scholarship, both the BYU GPA and the cumulative GPA must be within the awarding range.

### Spring/Summer

The committee will consider academic performance through fall semester 1996. Applications for summer term only will include grades through winter semester 1997.

# Special Scholarships

## Alumni Association Grants

Generations of BYU students have benefited from the generous support of Church and private individuals. With that support they have received a first-rate education that has helped them "go forth to serve." Part of that service includes providing for the education of future generations.

The Alumni Replenishment Grants consider not only need and eligibility in its applicants but also a moral commitment to repay the amount of the grant, so that future students can receive and continue such financial assistance.

### Alumni Association Replenishment

The Alumni Association Replenishment Grant is available to junior, senior, and graduate students whose total costs of education may not be met through other financial aid programs. Up to thirty scholarships are awarded annually in amounts equal to half or full LDS tuition. The scholarship recipients will be eligible for membership in the Society of Alumni Scholars and will be asked to replenish the fund once they are in a financial position to do so.

To be considered, both the cumulative and BYU GPA must be at least 3.00 by the end of winter semester 1996. Applicants must also demonstrate financial need and be willing to replenish the scholarship fund at a later date.

### Alumni Association Regional Replenishment

Some of the regional chapters of the BYU Alumni Association offer scholarships to students whose permanent residence lies within their boundaries.

For applications, deadlines, and additional information, contact the Alumni Association, ALUM, telephone (801) 378-4663 or 1-800-437-4663.

## Athletic Grants-in-Aid

The university awards grants-in-aid to outstanding athletes who qualify under the rules and regulations of the Western Athletic Conference(WAC) and the National Collegiate Athletics Association (NCAA).

### Female Athletes

Contact the Intercollegiate Women's Athletic Director, 228-B SFH, PO Box 22240, Provo, UT 84602-2018, telephone (801) 378-4225.

### Male Athletes

Apply directly to the coach of the sport of interest or the director of Intercollegiate Athletics, 106 SFH, PO Box 22241, Provo, UT 84602-2241, telephone (801) 378-2096.

## College and Departmental Scholarships

In addition to the scholarship programs listed, other private scholarships are available through the colleges and some departments.

## Disabled Student Awards

A few private awards have been designated specifically for disabled students. For information regarding these awards, refer to the current BYU Financial Aid and Scholarship Bulletin.

## International Student Scholarships

A few scholarships have been established by private donors specifically for international students from certain areas of the world. Scholarship requirements and applications can be obtained from International Services (350 SWKT).

## Jerusalem Center Financial Aid

The Jerusalem Center for Near Eastern Studies offers financial aid to undergraduate and graduate students participating in the various Jerusalem Center study programs. This financial aid is administered under the following two categories:

*Grants* are awarded primarily on the basis of fiancial need, with additional consideration given to academic performance. These grants will vary according to the length of the program, the applicant's financial need, and the funds available.

*Scholarships* are awarded primarily on the basis of academic performance and area of study. Scholarships will vary as stated above. A minimum GPA of 3.70 is required to be considered.

For program applications, deadlines, and additional information, contact the Jerusalem Center Office, 309 HCEB, PO Box 21524, Provo, UT 84602-1524, telephone (801) 378-6017.

## Multicultural Financial Aid

A number of scholarships and grants are offered on the basis of scholastic merit and/or financial need to Native American, African American, Latino, Asian refugee, and Polynesian undergraduate students who are United States citizens or permanent residents. Applicants must submit a separate Multicultural Scholarship/Grant Application, available upon request from the Ethnic Student Financial Aid Office, 199 ELWC, PO Box 27908, Provo, UT 84602-7908.

## Native American Student Scholarships

The Native American Educational Outreach Program offers scholarships to Native American students in graduate and undergraduate programs.

To be considered, applicants must be in good academic standing and demonstrate financial need. Applications are available upon request from the Scholarship Office, A-41 ASB.

## Need-Based Scholarships

United States citizens and permanent residents may qualify for a limited number of need-based scholarships. These funds are awarded according to the level of financial need as determined by the Free Application for Federal Student Aid (FAFSA).

## Other Private Scholarships

Generous friends of the university have contributed to fund a number of private scholarships. Students who apply for a scholarship will automatically be considered for most of these private scholarships. However, some carry specific stipulations and require additional information.

## Research Scholarships

The following scholarships promote and reward research:

The *Undergraduate Scholarship Awards* are given to a select number of students, generally juniors and seniors, in good academic standing to fund research projects. To obtain the application instructions and guidelines, deadlines, and additional information, contact the Office of Research and Creative Activities (A-261 ASB).

The *Joseph L. and Madeline B. Wirthlin Scholarship* is awarded to one junior and one senior student each year who have an interest in pursuing a career in the attitudinal or survey research industry. Contact the Scholarship Office (A-41 ASB) for an application.

We recommend that students also contact their department and college to learn about other research opportunities and awards.

## ROTC Scholarships

Both the Army ROTC and the Air Force ROTC offer competitive scholarships to qualified students enrolling in their programs. ROTC scholarship recipients may receive full tuition, fees, books, and associated costs. In addition, both scholarship and nonscholarship students enrolled in courses numbered in the 300 and 400 series may apply for a $100 monthly subsistence allowance. For further information and application requirements, contact the Military Science Department (Army ROTC), 320 Wells ROTC Building, PO Box 28301, Provo, UT 84602-8301, telephone (801) 378-3601; or the Aerospace Studies Department (Air Force ROTC), 380 Wells ROTC Building, PO Box 28301, Provo, UT 84602-8301, telephone (801) 378-2671.

## Study Abroad Scholarships

Study Abroad offers scholarships and grants to assist undergraduate and graduate students participating in Study Abroad programs. The following private scholarships are offered:

The *Mae Covey Gardner Scholarship* has been established exclusively for those participating in the London and Vienna programs.

The *Howard B. and Mary D. Nelson Award* assists students majoring or minoring in French, Spanish, or Italian. These programs are offered only during the months of May and June. However, applicants who have served a French-, Spanish-, or Italian-speaking mission are ineligible.

The *Study Abroad Scholarship* is available for students on any program except London or Vienna.

BYU students who have been admitted to a Study Abroad program will automatically be considered for relevant scholarships and grants, provided the applicant has completed a current Free Application for Federal Student Aid (FAFSA) before the Study Abroad application deadline. For program applications, deadlines, and additional information, contact the Study Abroad Office, 204 HRCB, PO Box 24540, Provo, UT 84602-4540, telephone (801) 378-3308.

## Talent Awards

BYU offers talent awards in the areas of communications, dance, music, theatre and film, and visual arts. For these awards, demonstrated talent is a more important criterion than scholastic achievement. Awards range in value from $100 to full tuition and fees for one year. For further information and application materials, contact the appropriate department directly:

*Communications:* Department of Communications, E-509 HFAC, PO Box 26403, (801) 378-2997.

*Dance:* Department of Dance, 294 RB, PO Box 22005, (801) 378-5086.

*Music:* Department of Music, C-550 HFAC, PO Box 26410, (801) 378-4784.

*Theatre and Film:* Department of Theatre and Film, D-581 HFAC, PO Box 26405, (801) 378-6645.

*Visual Arts:* Department of Visual Arts, C-502 HFAC, PO Box 26402, (801) 378-4429.

## General University Scholarship Policies

Students granted university scholarships must do the following to remain eligible for their award:

1. Abide by the Honor Code and adhere to the dress and grooming standards of BYU.
2. Attend at least two semesters in each academic year. Scholarships may be applied to approved Study Abroad and Travel Study programs but may not be used for Independent Study or Continuing Education courses nor on other campuses.
3. Register as a full-time student and complete a minimum 28 credit hours during the two semesters of the award.
   If the scholarship is for one enrollment only, the student must complete 14 hours for a semester or 6 hours for a term.

   Only 8.5 hours are required in the final semester before graduation.

   Courses repeated within the same academic year will count only once toward the hour requirement.

   Credit must be earned within the classroom. Credit earned through special examination or Independent Study and audited classes may not be used to meet the requirement.

   Courses completed at the Salt Lake Center may be included in the hour requirement if the student registers for at least 8.5 hours on the Provo campus. The student is responsible for any additional tuition assessed by the Salt Lake Center.

Additional provisions:

1. Undergraduate students who have acquired more than 160 hours of credit or who have received scholarships for a total of eight semesters are ineligible for future scholarships.
2. In any given semester or term, undergraduate students may receive in BYU scholarship assistance (including private funds donated to the university) no more than 80 percent of the Gordon B. Hinckley Scholarship stipend, which equals one and one-half times LDS tuition.

Note: Exceptions to these policies may sometimes be granted according to individual needs and circumstances. Students wanting an exception must submit a formal written petition to the Scholarship Office prior to the necessary change.

## BYU Short-Term Loan

A short-term loan is available to full- or part-time day students or full-time evening students admitted to day school. A student may borrow up to the cost of tuition only, and because the loan is "short-term" the loan must be repaid during the same semester or term in which the money is borrowed. The loan is not available for Independent Study, Study Abroad, Travel Study, job interviewing, or debt payments.

## Federal Programs

### Federal Pell Grant

A Federal Pell Grant is awarded by the U.S. Department of Education and is based on financial need. A Federal Pell Grant is not a loan and does not have to be repaid. Only undergraduate students who haven't already earned a bachelor's degree are eligible for a Federal Pell Grant. (Students who pay graduate tuition are not eligible.) In addition, students must meet other eligibility requirements (see preceding Eligibility Requirements). Full-year Federal Pell Grants are based on an eligibility index determined by a federal formula and range between $400 and $2,300. Federal Pell Grant payments are disbursed to BYU students for only one semester at a time and vary with the number of hours for which a student is enrolled per semester (spring and summer terms combined are considered one semester).

12.0 or more semester hours equal a full-time payment.
9.0–11.5 semester hours equal a three-quarter-time payment.
6.0–8.5 semester hours equal a half-time payment.
Fewer than 6.0 semester hours equal a less-than-half-time payment.

In determining hours for Federal Pell Grant payments, please note that:

1. Audit hours, special courses and conferences, and hours obtained by challenging classes may not be used.
2. Continuing Education, Salt Lake Center, Study Abroad, and Travel Study classes, etc., may be used only during the term or semester for which the student is admitted to BYU day school.
3. Independent Study courses may be used only if the course is begun and completed during the term or semester for which the student is requesting payment.

### Federal Subsidized Stafford Loan

A subsidized Federal Stafford Loan is a low-interest, federally subsidized loan based on financial need. It is available to undergraduate and graduate students who meet the eligibility requirements (see preceding Eligibility Requirements) and the federal government requirements for need as calculated by the FAFSA. Subsidized Federal Stafford Loan recipients must be enrolled in at least 6 credit hours per semester (or 3 credit hours per term) during the entire period of their loan. No audit hours, Independent Study hours, nor Conferences and Workshop hours may be used to meet the minimum hour requirement.

To avoid the burden of excessive debt, students should consider other forms of financial aid such as grants, scholarships, awards, part-time employment, and family assistance. Students should also contact their state educational agency to apply for state grants and other state aid that may be available. High school counselors and employers may also provide information regarding sources of financial aid. An unsubsidized Federal Stafford Loan is also available to students who do not qualify for a fully subsidized Federal Stafford Loan. Contact the Financial Aid Office for details.

### Federal PLUS Loan

A Federal PLUS Loan is an educational loan that parents may obtain to meet the educational expenses of their dependent children who meet the eligibility requirements above and are enrolled in at least 6 credit hours per semester (or 3 credit hours per term) during the entire loan period.

A Federal PLUS Loan is neither need based nor federally subsidized. It requires credit approval by the lender. PLUS Loans must be disbursed to the school by Electronic Funds Transfer (EFT) or by checks made copayable to the parent and the school. Monthly payments generally begin sixty days after the loan is disbursed. A student may receive a Federal PLUS Loan in addition to a Federal Stafford Loan.

### Federal Unsubsidized Stafford Loan

An unsubsidized Federal Stafford Loan is an educational loan that students may obtain to meet their educational expenses. To

be considered for an unsubsidized Federal Stafford Loan, students must meet the eligibility requirements and be enrolled in at least 6 credit hours per semester (or 3 credit hours per term) for the entire loan period.

Although the unsubsidized Federal Stafford Loan is neither need based nor federally subsidized, a student must first complete the FAFSA to determine eligibility for a Federal Pell Grant or subsidized Federal Stafford Loan. Payments generally begin sixty days after the loan is disbursed. A student may receive an unsubsidized Federal Stafford Loan in addition to a subsidized Federal Stafford Loan.

## Satisfactory Academic Progress

Federal regulations require schools to establish, publish, and apply reasonable standards for determining whether a student receiving financial aid is maintaining satisfactory academic progress in his or her course of study. Two separate standards for measuring satisfactory academic progress are required: one is based on academic grades and the other is based on rate of progress toward a degree or certificate. In keeping with these regulations, Brigham Young University has established and will apply the following policies governing satisfactory academic progress for financial aid.

### Evaluation Measures

Newly admitted students (both entering freshmen and transfer students) are eligible for financial aid during their first academic year at BYU. At the end of the first academic year, and at the end of each winter semester thereafter, the status of all students will be evaluated to determine if they are making satisfactory academic progress in each of these areas.

**1.Academic Standing:** Students who are on academic probation after winter semester will be ineligible for federal financial aid for the following academic year.

**2.Rate of Progress:** Students who fail to successfully complete at least 70 percent of the courses for which they register each academic year will be ineligible for financial aid for the following academic year. For purposes of this policy, the following are "nonprogress" grades: E, I, IE, NS, UW, W, and WE. Courses repeated in the same academic year are also nonprogress.

Students not meeting the 70 percent completion rate will remain ineligible for federal financial aid until they:

a. Improve their completion rate for the academic year to 70 percent, or
b. Successfully complete 12 hours (with no "nonprogress" grades) during regular terms or semesters at BYU, through Independent Study, or at another college or university.

Undergraduate students with over 180 total credit hours are generally ineligible for financial aid.

### Appeals and Requalifying for Aid

Students may appeal to receive aid if there were unusual, extenuating circumstances that prevented them from making satisfactory academic progress. Possible reasons for an appeal might be accident or injury, medical or family emergency, or other similar circumstance.

Students may petition to receive aid for future semesters or terms in the same academic year, after improving their academic standing or rate of progress, as indicated above. Students requesting an override of the 180-hour limit must file a copy of their approved graduation plan with their appeal.

## Important Tax Information

Under the Tax Reform ACT of 1986 any funds received from scholarships, benefits, fellowships, and grants from BYU or any other source, which combined exceed the cost of tuition, fees, books, and required equipment and supplies, are considered taxable income. These include Federal Pell Grants but not BYU or federal loans.

Since a student is required to report these awards as income to the Internal Revenue Service, it is vital to keep a detailed record (including canceled checks and/or receipts) of all expenditures for tuition, fees, books, and required equipment and supplies. Housing and food are considered nonexempt, so money spent on these items is subject to income tax.

The university is not required to withhold any amounts from award payments, so the student will be entirely responsible for any taxes that may be due the government. The law concerning taxation of scholarships and fellowships is complex. For more detailed information, students should consult with their personal tax advisor.

## Exception to University Financial Aid Policy

Students desiring an exception to University Financial Aid Policy must petition the Financial Aid Committee in writing, stating the reason for the requested exception. The committee meets on a regular basis to review petitions. Forms may be obtained from the Financial Aid Office (A-41 ASB, PO Box 21009, [801] 378-4104).

## Additional Information Regarding Financial Aid

A detailed description and application instructions for each of these financial aid programs can be found in the BYU Financial Aid Bulletin, available on request. Students with questions regarding financial aid at Brigham Young University are invited to contact the Financial Aid Office.

# Housing

Housing Office (100 SASB, PO Box 21820, [801] 378-2611)

Quality residential living is an important, indeed an integral, part of the total educational experience at BYU, and students should carefully consider the accommodations available in view of the type of living experience they desire, the time they have available for activities within their housing situation, and their economic needs. Housing is available on campus and in the surrounding communities, and programs have been established within campus residence halls and with off-campus landlords to integrate living experiences with the total university educational program.

## On-Campus Housing

On-campus housing includes room-and-board residence halls for men and women, each directed by a competent resident adult; apartment-style living for women and men; and family apartments. Assisting the head resident in the room-and-board areas and the apartment-style living are several resident assistants—mature, advanced students who reside with the student group. Students are known personally by the staff and have someone available to assist with normal student problems.

The residence hall program is designed to provide experiences in self-government, sharing relationships, and other responsibilities that encourage maturity and independence.

### Residence Halls for Men and Women

Board and room in **Helaman Halls and Deseret Towers** is provided for both men and women. Each hall contains student lounges; study rooms; shower and restroom areas; laundry and storage facilities. Reading and writing labs, as well as math and computer labs, are also provided in the central buildings and are staffed by teaching assistants. The central buildings for each complex feature spacious cafeterias, dining rooms, reception areas, offices, and mail service for the entire residence area. Recreational facilities include a swimming pool, sports courts, and large lawn areas.

### Apartment Living for Men and Women

**Heritage Halls** provides housing for both women and men in apartment-style buildings. The majority of the apartments have a combination kitchen-dining-study room, three bedrooms, and a bath. In addition, there are large living rooms, a recreation room, and laundry and storage facilities in each building. Six people live in each apartment. The apartments are completely furnished except for bedding and kitchen items.

Help with budgeting, buying, and meal planning is available from specialists assigned to Heritage Halls. Residents can also request help planning social activities, developing recreational skills, and learning the wise use of leisure time. A computer lab is provided in the central building and staffed by teaching assistants.

### Residences for Families

Accommodations for 1,048 student families are provided in housing developments known as Wymount Terrace and Wyview Park. Because of the demand for these facilities, applicants should submit their applications at least one year before anticipated placement. The waiting list varies depending on time of year and availability.

**Wymount Terrace** consists of family apartments arranged around lawn and play areas where children may enjoy themselves away from busy streets. Each apartment is furnished with an electric or gas range, refrigerator, window coverings, and garbage disposal. A limited amount of furniture is available for rent from the university. Apartments in Wymount Terrace are not plumbed or wired for washers and dryers, but the area is served by five self-service laundry centers. Four apartment sizes are available, and, as in other family housing, these are assigned according to family size.

**Wyview Park** consists of one-, two-, and three-bedroom mobile homes placed on permanent foundations and connected to power, water, and sewer lines to provide the conveniences of permanent homes. Each unit is equipped with air cooling, laundry hookups, refrigerator, garbage disposal, built-in gas range, carpeting in the living room and bedrooms, and built-in chests of drawers. A laundromat, children's play area, adult recreation area, community assembly room, and community park are also nearby.

### Foreign Language Student Residence

The College of Humanities sponsors the Foreign Language Student Residence, located near the Missionary Training Center. Students pledge to speak only the foreign language in their apartment while they live and study together under the supervision of a faculty advisor and a native speaker.

All rooms are double rooms, and male and female students eat together, with the cost of some meals included in the fees. For details, write to one of the foreign language departments listed in this catalog or to the coordinator of the Foreign Language Student Residence (4088 JKHB, PO Box 26120).

### Applications for Campus Housing

Students who plan to enroll at BYU and live in a university residence hall are advised to contact the Housing Business Office (100 SASB, PO Box 21820) about a year in advance. As soon as the housing agreement is received, students should complete it, enclose the $50 housing application fee and $100 security deposit, and mail it back. The application fee is nonrefundable unless the student is not admitted to the university or campus housing. The *security deposit* is refundable (1) if the student is not admitted to the university or campus housing, (2) if cancellation is received before the deadline shown on the agreement, or (3) at the end of the agreement if there is no debt owing the university.

Agreements are processed according to the date they are received by the Housing Business Office. Students should be prepared to live by the terms of the agreement once they have

acquainted themselves with its terms, signed it, and returned it to the Housing Business Office; this will avoid any possible misunderstanding or financial loss. Agreements are made for the academic school year.

**Acceptance into the University:** Validation of any campus housing reservation is contingent on the student's official acceptance and admission to the university.

**Time of Arrival:** Residence halls are not open to students before the announced opening date, which is usually the day before Orientation begins. The university does not advise students who are going to live on campus to arrive before that date.

# Off-Campus Housing

(255 ELWC, PO Box 27905, [801] 378-5066)

Brigham Young University is committed to creating an atmosphere conducive to intellectual and spiritual development for all of its students, including those who live off campus. The BYU Off-Campus Housing Office was established to assist in this task by:

1. Aiding students in locating off-campus housing.
2. Encouraging landlords to maintain and improve rental facilities.
3. Advising and giving counsel to students and landlords in their relationships with one another.
4. Attempting to assure that BYU living standards are maintained off campus.

To help achieve these ends, single BYU students are required to live in university-approved housing (see below). At present, more than 18,000 rental spaces have been approved by the university for single students living off campus. For further information concerning off-campus rentals and BYU regulations, contact the Off-Campus Housing Office between 8:00 a.m. and 5:00 p.m. Monday through Friday.

## BYU Housing Referral Service

The BYU Off-Campus Housing Office maintains a referral service for all university-approved rental facilities. Thousands of rental units of all types have been approved. There are large apartment complexes, condominiums, duplexes, houses, basement apartments, and sleeping rooms. Family housing is not subject to university approval.

Information about current vacancies is available at the Off-Campus Housing Office. Copies of the latest vacant rental listings and a guide with essential rental data on the large apartment complexes are available in a display case outside the office door. These lists and the guide are also available for mailing upon request. The vacancy lists can be faxed. The "Housing Hotline" provides daily updates of newly listed vacant rentals—call (801) 378-3440. Counselors are also available to help students who have exceptional problems finding suitable off-campus housing.

## University-Approved Housing

*All BYU students are required to provide the local address where they reside (not a post office box) as part of the registration process. Unless specifically excused by the Off-Campus Housing Office, all single BYU students are required to live in university-approved housing either on or off campus.* The requirement may be waived by the Off-Campus Housing Office for the following students:

1. Single parents with children.
2. Single students living with parents.
3. Single students who are in graduate school or 25 years of age or older.
4. Under certain conditions, as determined by the Off-Campus Housing Office, the university housing requirement may be waived for other students. For example, such conditions include living with families that are relatives or friends; rendering service in exchange for room and board; and living with and caring for invalid, disabled, or elderly persons.

Hotels, motels, and studio apartments are not approved housing for single students. A studio apartment is a living unit that does not provide a separate bedroom but combines the living and sleeping area.

Students who do not provide their local address or who live in housing not approved by the university and who are not excused by the BYU Off-Campus Housing Office are subject to the following sanctions:

1. Future registration may be stopped and activity card privileges may be withheld until the student verifies that he or she is living in or will be living in university-approved housing.
2. Students falsifying their addresses will be subject to the above consequences as well as disciplinary action by the university for Honor Code violations.

When a student has contracted to live in a facility not approved by the university and has not been excused from the university housing requirement, these sanctions will be applied even though the student's tenancy extends beyond the current semester or term in which the student is enrolled. A student in this situation will have to either move from the unapproved housing unit, regardless of the consequences, or forego registration and other privileges at the university until complying with this policy.

The university approves off-campus living units whose owners have agreed to:

1. Adequately separate single men and women.
2. Exercise reasonable efforts to maintain BYU residential living standards.
3. Maintain the facilities in good repair.
4. Not abuse basic tenant rights.

*The university cannot guarantee that owners and managers are employing their best efforts to maintain our standards, that all residents are complying with BYU standards, or that approved living units always meet our physical criteria. Thus, students are individually responsible to carefully choose an acceptable apartment and compatible roommates. Students should, of course, inform the BYU Off-Campus Housing Office if they suspect that the standards and the physical criteria are not being maintained.*

Because a student's living environment has a profound influence on academic performance and spiritual growth, BYU promotes an environment in approved off-campus housing facilities that is consistent with its mission and with the moral virtues taught by The Church of Jesus Christ of Latter-day Saints. Specifically, the BYU off-campus housing program *sets guidelines* for landlords and students, which, if followed, will cultivate that desired moral climate. BYU Housing personnel attempt to rectify any deviations from these standards and policy guidelines.

# On Choosing a Major

1. **Identify Areas You Want to Know and Understand**

   Success in a major depends on the right combination of interests, skills, efforts, and aptitudes. If you choose a major only because of its job possibilities and fail to look at your own interests and aptitudes, you will probably be disappointed. Broaden your horizons, explore what you find interesting—what excites you most.

2. **Choose a Major on Criteria Other than Current Job Opportunities**

   Many college students, unfortunately, see college only as a vehicle for gaining economic security and mobility. Thus, they try to choose majors and a career on the basis of current job opportunities. Become educated, not merely trained.

3. **Develop Flexibility and Adaptability**

   The only things you can really count on in the future are change and a continued knowledge explosion. Some futurists have estimated that today's high school graduates will be in five to seven different careers during their lifetime. Flexibility and adaptability, learning how to learn, and learning to think carefully and critically are the aims of a strong liberal arts education such as that available at BYU.

   For some jobs, employers do not require a degree in a particular major. In these cases, employers respond favorably to applicants who have developed analytical skills and the ability to reason abstractly and who have learned to communicate effectively.

Below are commonly asked questions followed by a list of resources where you can find answers. **Unless otherwise noted, you can access all of these resources through the Counseling and Development Center (151 SWKT, PO Box 25548, [801] 378-2723).**

## How Do I Choose a Major?

**What majors are offered at BYU and what are their requirements?**

- Career counseling.
- Career and Learning Information Center: 104 SWKT, PO Box 25548, (801) 378-2689.
- Open Major Advisement Center: (801) 378-3826.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

**How do I find out what majors best fit me?**

- Career counseling.
- Career and Learning Information Center: 104 SWKT, PO Box 25548, (801) 378-2689.
- Counseling Center workshops.
- Career Calendar: Pick up a copy in 151 SWKT.
- University 101: See current class schedule.
- Student Development (StDev) 110, 115, 117: See current class schedule.

**What kind of career opportunities are available in my major?**

- Career and Learning Information Center: 104 SWKT, PO Box 25548, (801) 378-2689.
- Placement Center: D-240 ASB, PO Box 21227, (801) 378-3000.
- Campus departments.

## What Do I Do When I Get Stuck?

**Now that I've got my information, how do I make a decision?**

- Career counseling.
- Student Development 115, 117: See current class schedule.
- Talk with an expert in the field: Contact that department.

**I know what I want, but do I qualify?**

- Open Major Advisement Center: (801) 378-3826.
- Career counseling.
- Student Development (StDev) 110, 117: See current class schedule.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

## I Know My Major. Now What?

**How do I find out my major requirements?**

- Career and Learning Information Center: 104 SWKT, PO Box 25548, (801) 378-2689.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

**How do I declare my major?**

- Open Major Advisement: (801) 378-3826.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

## How Do I Prepare for Life after Graduation?

**How do I find employment?**

- Career counseling.
- Career Calendar: Pick up a copy in 151 SWKT.
- Student Development (StDev) 317: See current class schedule.
- Placement Center: D-240 ASB, PO Box 21227, (801) 378-3000.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

**Do I want to consider further professional training?**

- Career counseling.
- Student Development (StDev) 317: See current class schedule.
- Placement Center: D-240 ASB, PO Box 21227, (801) 378-3000.
- College advisement centers: See listing in current class schedule or the Directory section of this catalog.

# Alphabetical List of Undergraduate Majors at Brigham Young University

| Academic Programs and Degrees Offered | Departments | Colleges/Schools |
|---|---|---|
| Accounting—BS | School of Accountancy and Information Systems | J. Willard and Alice S. Marriott School of Management |
| Advertising—BA | Communications | Fine Arts and Communications |
| Agronomy—BS | Agronomy and Horticulture | Biology and Agriculture |
| American Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Animal Science—BS | Animal Science | Biology and Agriculture |
| Anthropology—BA | Anthropology | Family, Home, and Social Sciences |
| Anthropology (Sociocultural)—BA | Anthropology | Family, Home, and Social Sciences |
| Apparel Studies—BS | Clothing and Textiles | Family, Home, and Social Sciences |
| Art—BA, BFA | Visual Arts | Fine Arts and Communications |
| Art Education—BA | Visual Arts | Fine Arts and Communications |
| Art History—BA | Visual Arts | Fine Arts and Communications |
| Asian Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Audiology—BS | Educational Psychology | Education |
| Biochemistry—BS | Chemistry and Biochemistry | Physical and Mathematical Sciences |
| Biology—BS (combined degree program) | Biology | Biology and Agriculture |
| Biology Composite Teaching—BS | Botany and Range Science; Microbiology; Zoology | Biology and Agriculture |
| Botany—BS | Botany and Range Science | Biology and Agriculture |
| Broadcast Communication—BA | Communications | Fine Arts and Communications |
| Canadian Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Chemical Engineering—BS | Chemical Engineering | Engineering and Technology |
| Chemistry—BA, BS | Chemistry and Biochemistry | Physical and Mathematical Sciences |
| Chemistry Education—BA | Chemistry and Biochemistry | Physical and Mathematical Sciences |
| Chinese—BA | Asian and Near Eastern Languages | Humanities |
| Chinese Teaching—BA | Asian and Near Eastern Languages | Humanities |
| Civil Engineering—BS | Civil and Environmental Engineering | Engineering and Technology |
| Classical Studies—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Clinical Laboratory Science—BS | Microbiology | Biology and Agriculture |
| Communication Studies—BA | Communications | Fine Arts and Communications |
| Comparative Literature—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Computer Engineering—BS | Electrical and Computer Engineering | Engineering and Technology |
| Computer Science—BS | Computer Science | Physical and Mathematical Sciences |
| Conservation Biology—BS | Botany and Range Science; Zoology | Biology and Agriculture |
| Construction Management—BS | Technology Education and Construction Management | Engineering and Technology |
| Dance—BA | Dance | Physical Education |
| Dance Education—BA | Dance | Physical Education |
| Design—BA | Visual Arts | Fine Arts and Communications |
| Dietetics—BS | Food Science and Nutrition | Biology and Agriculture |
| Earth and Space Science Education—BA | Geology | Physical and Mathematical Sciences |
| Economics—BA, BS | Economics | Family, Home, and Social Sciences |
| Economics Teaching—BA | Economics | Family, Home, and Social Sciences |
| Electrical Engineering—BS | Electrical and Computer Engineering | Engineering and Technology |
| Electronics Engineering Technology—BS | Manufacturing Engineering and Engineering Technology | Engineering and Technology |
| Elementary Education—BS | Elementary Education | Education |
| Engineering Geology—BS | Geology | Physical and Mathematical Sciences |
| English—BA | English | Humanities |

| | | |
|---|---|---|
| English Teaching—BA | English | Humanities |
| European Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Facilities Management—BS | Technology Education and Construction Management | Engineering and Technology |
| Family History–Genealogy—BA | History | Family, Home, and Social Sciences |
| Family Sciences—BS | Family Sciences | Family, Home, and Social Sciences |
| Fashion Design—BA | Clothing and Textiles | Family, Home, and Social Sciences |
| Fashion Merchandising—BS | Clothing and Textiles | Family, Home, and Social Sciences |
| Film—BA | Theatre and Film | Fine Arts and Communications |
| Food Science—BS | Food Science and Nutrition | Biology and Agriculture |
| French—BA | French and Italian | Humanities |
| French Teaching—BA | French and Italian | Humanities |
| Geographic Information Systems—BS | Geography | Family, Home, and Social Sciences |
| Geography—BS | Geography | Family, Home, and Social Sciences |
| Geography Teaching—BS | Geography | Family, Home, and Social Sciences |
| Geology—BS | Geology | Physical and Mathematical Sciences |
| German—BA | Germanic and Slavic Languages | Humanities |
| German Teaching—BA | Germanic and Slavic Languages | Humanities |
| Graphic Design—BFA | Visual Arts | Fine Arts and Communications |
| Health Promotion—BS | Physical Education; Health Sciences | Physical Education |
| Health Sciences—BS | Health Sciences | Physical Education |
| History—BA | History | Family, Home, and Social Sciences |
| History Teaching—BA | History | Family, Home, and Social Sciences |
| Honors in Applied Physics and University Honors—BS | Physics and Astronomy | Physical and Mathematical Sciences |
| Honors in Art and University Honors—BFA | Visual Arts | Fine Arts and Communications |
| Honors in Art History and University Honors—BA | Visual Arts | Fine Arts and Communications |
| Honors in Biochemistry and University Honors—BS | Chemistry and Biochemistry | Physical and Mathematical Sciences |
| Honors in Chemistry and University Honors—BA, BS | Chemistry and Biochemistry | Physical and Mathematical Sciences |
| Honors in Communications and University Honors—BA | Communications | Fine Arts and Communications |
| Honors in Comparative Literature and University Honors—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Honors in Economics and University Honors—BA | Economics | Family, Home, and Social Sciences |
| Honors in Electrical Engineering and University Honors—BS | Electrical and Computer Engineering | Engineering and Technology |
| Honors in English and University Honors—BA | English | Humanities |
| Honors in French and University Honors—BA | French and Italian | Humanities |
| Honors in Geology and University Honors—BS | Geology | Physical and Mathematical Sciences |
| Honors in German and University Honors—BA | Germanic and Slavic Languages | Humanities |
| Honors in History and University Honors—BA | History | Family, Home, and Social Sciences |
| Honors in Humanities and University Honors—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Honors in Italian and University Honors—BA | French and Italian | Humanities |
| Honors in Management and University Honors—BS | Management | J. Willard and Alice Marriott School of Management |
| Honors in Mathematics and University Honors—BS | Mathematics | Physical and Mathematical Sciences |
| Honors in Mechanical Engineering and University Honors—BS | Mechanical Engineering | Engineering and Technology |
| Honors in Microbiology and University Honors—BS | Microbiology | Biology and Agriculture |
| Honors in Molecular Biology and University Honors—BS | Agronomy and Horticulture; Animal Science; Botany and Range Science; Chemistry and Biochemistry; Food Science and Nutrition; Microbiology; Zoology | Biology and Agriculture; Physical and Mathematical Sciences |
| Honors in Music and University Honors—BA, BM | Music | Fine Arts and Communications |
| Honors in Philosophy and University Honors—BA | Philosophy | Humanities |
| Honors in Physics and University Honors—BS | Physics and Astronomy | Physical and Mathematical Sciences |
| Honors in Portuguese and University Honors—BA | Spanish and Portuguese | Humanities |
| Honors in Russian and University Honors—BA | Germanic and Slavic Languages | Humanities |
| Honors in Spanish and University Honors—BA | Spanish and Portuguese | Humanities |
| Honors in Statistics and University Honors—BS | Statistics | Physical and Mathematical Sciences |

| | | |
|---|---|---|
| Honors in Zoology and University Honors—BS | Zoology | Biology and Agriculture |
| Horticulture—BS | Agronomy and Horticulture | Biology and Agriculture |
| Humanities—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Humanities Composite Teaching—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Illustration—BFA | Visual Arts | Fine Arts and Communications |
| Independent Studies—BIS | Independent Studies | Division of Continuing Education |
| Industrial Design—BFA | Visual Arts | Fine Arts and Communications |
| Industrial Education—BS | Technology Education and Construction Management | Engineering and Technology |
| Interior Design—BFA | Visual Arts | Fine Arts and Communications |
| International Relations—BA | David M. Kennedy Center for International Studies | Family, Home, and Social Sciences |
| Italian—BA | French and Italian | Humanities |
| Japanese—BA | Asian and Near Eastern Languages | Humanities |
| Japanese Teaching—BA | Asian and Near Eastern Languages | Humanities |
| Journalism—BA | Communications | Fine Arts and Communications |
| Journalism Education—BA | Communications | Fine Arts and Communications |
| Korean—BA | Asian and Near Eastern Languages | Humanities |
| Latin American Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Latin Teaching—BA | Humanities, Classics, and Comparative Literature | Humanities |
| Linguistics—BA | Linguistics | Humanities |
| Management—BS | J. Willard and Alice S. Marriott School of Management | J. Willard and Alice S. Marriott School of Management |
| Manufacturing Engineering—BS | Manufacturing Engineering and Engineering Technology | Engineering and Technology |
| Manufacturing Engineering Technology—BS | Manufacturing Engineering and Engineering Technology | Engineering and Technology |
| Mathematics—BS | Mathematics | Physical and Mathematical Sciences |
| Mathematics Education—BA | Mathematics | Physical and Mathematical Sciences |
| Mechanical Engineering—BS | Mechanical Engineering | Engineering and Technology |
| Microbiology—BS | Microbiology | Biology and Agriculture |
| Molecular Biology—BS | Agronomy and Horticulture; Animal Science; Botany and Range Science; Chemistry and Biochemistry; Food Science and Nutrition; Microbiology; Zoology | Biology and Agriculture; Physical and Mathematical Sciences |
| Music—BA | Music | Fine Arts and Communications |
| Music Composition—BM | Music | Fine Arts and Communications |
| Music Dance Theatre—BFA | Dance; Music; Theatre and Film | Fine Arts and Communications; Physical Education |
| Music Education—BM | Music | Fine Arts and Communications |
| Near Eastern Studies—BA | David M. Kennedy Center for International Studies | Humanities |
| Nursing—BS | Nursing | Nursing |
| Nutritional Science—BS | Food Science and Nutrition | Biology and Agriculture |
| Performance—BM | Music | Fine Arts and Communications |
| Philosophy—BA | Philosophy | Humanities |
| Photography—BFA | Visual Arts | Fine Arts and Communications |
| Physical Education—BS | Physical Education | Physical Education |
| Physical Science Teaching—BS | Secondary Education | Education |
| Physics—BS | Physics and Astronomy | Physical and Mathematical Sciences |
| Physics, Applied—BS | Physics and Astronomy | Physical and Mathematical Sciences |
| Physics Teaching—BA | Physics and Astronomy | Physical and Mathematical Sciences |
| Planning and Resource Management—BS | Geography | Family, Home, and Social Sciences |
| Political Science—BA | Political Science | Family, Home, and Social Sciences |
| Political Science Teaching—BA | Political Science | Family, Home, and Social Sciences |
| Portuguese—BA | Spanish and Portuguese | Humanities |
| Psychology—BS | Psychology | Family, Home, and Social Sciences |
| Psychology Teaching—BS | Psychology | Family, Home, and Social Sciences |
| Public Policy—BA-MA | Political Science | Family, Home, and Social Sciences |
| Public Relations—BA | Communications | Fine Arts and Communications |
| Range Science—BS | Botany and Range Science | Biology and Agriculture |
| Recreation Management and Youth Leadership—BS | Recreation Management and Youth Leadership | Physical Education |
| Russian—BA | Germanic and Slavic Languages | Humanities |
| Russian Teaching—BA | Germanic and Slavic Languages | Humanities |

| | | |
|---|---|---|
| Social Science Teaching—BS | Secondary Education | Education |
| Social Work—BS | School of Social Work | Family, Home, and Social Sciences |
| Sociology—BS | Sociology | Family, Home, and Social Sciences |
| Sociology Teaching—BS | Sociology | Family, Home, and Social Sciences |
| Spanish—BA | Spanish and Portuguese | Humanities |
| Spanish Teaching—BA | Spanish and Portuguese | Humanities |
| Spanish Translation—BA | Spanish and Portuguese | Humanities |
| Speech-Language Pathology—BS | Educational Psychology | Education |
| Statistics—BS | Statistics | Physical and Mathematical Sciences |
| Technology Teacher Education—BS | Technology Education and Construction Management | Engineering and Technology |
| Theatre Arts—BA | Theatre and Film | Fine Arts and Communications |
| Theatre Arts Education—BA | Theatre and Film | Fine Arts and Communications |
| Travel and Tourism—BS | Geography | Family, Home, and Social Sciences |
| Wildlife and Range Resources—BS | Botany and Range Science | Biology and Agriculture |
| Zoology—BS | Zoology | Biology and Agriculture |

# Registration

Registration Office (B-130 ASB, PO Box 21114, [801] 378-2824)

## Who May Register?

Students are eligible to register if they are either continuing BYU students or new students who have received a letter of acceptance from the Admissions Office for the semester they wish to attend.

Continuing student status ends if a student does not complete day school classes the previous full semester (fall or winter) or if a student has graduated from BYU. Students who have lost continuing student status must be readmitted by the Admissions Office (A-153 ASB, PO Box 21110) before registration materials will be processed.

An individual who has disaffiliated from The Church of Jesus Christ of Latter-day Saints or has been excommunicated or disfellowshipped is not eligible for enrollment at Brigham Young University until he or she is once again in good standing in the Church. If a current student disaffiliates or is excommunicated or disfellowshipped from the Church, the Continuing Ecclesiastical Endorsement is always immediately withdrawn, and the student is discontinued. Every student must have a current Continuing Ecclesiastical Endorsement for continued enrollment.

## The Registration Process

Complete registration instructions and deadlines are listed in the current class schedule for each semester or term. New students receive a current class schedule in the mail, and continuing students may buy one at the BYU Bookstore or the Registration Office.

Registration is based on a priority system that allows students to begin registration according to their class standing and number of completed hours. Priority begins with graduate students and seniors, then juniors, sophomores, and freshmen. Non-degree-seeking graduates will be given access after continuing freshmen. Newly admitted freshmen will register together in a separate priority.

All eligible students will be mailed a Registration Notice for fall and winter semesters that will inform students of their beginning registration times. Following the instructions in the current class schedule, students may begin registering for fall semester in April and for winter semester in October. Spring and summer term registration will not be based on a priority system. Schedules become available sometime in January, and eligible students can register for spring and summer terms beginning in February. Students have continuous access to the registration system. However, once school begins some classes must be added with an instructor's signature.

A Tuition Billing Statement with a listing of classes will be mailed to each student who has registered for at least one class by mid-July for fall semester, mid-November for winter semester, mid-March for spring term, or mid-May for summer term. The tuition payment deadline is August 15 for fall semester 1996, December 16 for winter semester 1997, and mid-April and mid-June for spring 1997 and summer 1997 terms, respectively. Students who fail to meet tuition deadlines will lose access to the Touch-tone telephone system.

## Late Registration

Students who fail to pay by the tuition payment deadline will be assessed a late fee. When a student's tuition is received before the first day of class, the Touch-tone telephone system will be made available. Beginning the first day of school, students may register for their classes by following the adding and dropping procedures outlined below. For fall and winter semesters the late tuition fee is $50 (effective after the tuition deadline and before the first day of classes) and $90 (starting on the first day of classes). For spring and summer terms the fee is $25 (effective after the tuition deadline).

## Adding and Dropping Classes

Students may add and drop classes 24 hours a day by Touch-tone telephone. After school has started, each academic department determines how classes are added. The adding procedures of each department are noted T or S (telephone or signature) under each course listing in the current class schedule. Most departments use the following procedure:

1. Obtain a change of registration (add/drop) card from the Registration Office or a college advisement center.
2. To add a class, obtain a signature of approval from the instructor or department, as shown in the current class schedule.
3. To drop a class, complete the card, indicating the class to be dropped (no signature required).
4. After the second day of school, pay a fee to the university cashier for each class dropped. (The amount of the fee increases each day. The charges per day are printed on the add/drop card.)
5. Take the add/drop card to the Smith Family Living Center step-down lounge during the first two weeks of school or to the Registration Office (B-130 ASB, PO Box 21114) beginning the third week. Turn the card in before the appropriate deadline listed in the current class schedule.

During fall or winter semester, students may add classes during the first ten class days and drop classes during the first twenty-five class days. During spring or summer term, classes may be added during the first six class days and dropped during the first thirteen class days. (There is a $10 fee per class after these deadlines to petition for an exception to university policy.)

## Full- or Part-Time Status

A student who registers for more than 8 credit hours a semester or more than 4 credit hours a term is full-time for tuition purposes. Registration for 8 or fewer credit hours a semester (4 or fewer credit hours a term) gives the student part-time status. International students and students receiving financial assistance may be required to register for more hours to be considered full-time.

## Verification of Full-Time Status for Graduate Students

Graduate students (master's and doctoral students) who are enrolled for at least 2 credit hours per semester and who can be certified by their department as being engaged full-time in pursuit of their degrees can petition for graduate full-time status. Requests for such an exception should be directed to the Office of Graduate Studies.

## Withdrawal from Classes

Students who choose to withdraw from (drop) a class must do so officially. Students who do not officially withdraw before the published deadline will receive a failing grade. Refer to the current class schedule for the appropriate procedure and deadlines.

## Auditing Classes

Students who wish to audit a class (take a course without receiving any credit for it) must add the class, listing it as an audit course, on an add/drop card within the first ten class days. Audited classes do not appear on transcripts and do not count for verification purposes. *Students must be officially enrolled either for credit or audit to be eligible to attend class.*

## Class Preparation Time

The expectation for undergraduate courses is three hours of work per week per credit hour for the average student who is appropriately prepared; much more time may be required to achieve excellence. These three hours may include one hour of lecture plus two hours of work outside class, three hours in a laboratory with little outside work, or any other combination appropriate to a particular course.

## Maximum Hours Per Semester/Term

An undergraduate student in good standing may register for as many as 18 credit hours in any one semester (9 per term) by following the regular registration procedure. The college advisement center may authorize a student who has demonstrated superior academic ability to register for a maxiumum of 21 hours per semester (11 per term). Registering for classes through Continuing Education or auditing classes constitutes a part of the total registration. Through a petition process, exceptions to these rules may be granted by the university registrar (B-150 ASB, PO Box 21114).

## Final Examinations

The university schedules reading and examination periods. An examination period occurs at the end of each semester and term. The examination period is preceded by reading days, which give time for conscientious review, study, and synthesis of the semester's work. The reading and the examination periods are firmly scheduled parts of the semester; students must not make plans that interfere with these important academic activities. Students may not take final examinations early. If illness or other uncontrollable circumstances prevent a student from taking an examination at the scheduled time, that student is responsible to inform the class instructor as soon as possible.

The instructor may give the grade *Incomplete*, depending on the circumstances. The incomplete cannot be given unless the student and instructor together prepare a contractual agreement. In cases where a student has conflicting examinations or more than three examinations in one day, individual arrangement for alternative test times may be made by the instructor.

## Registration Holds

The university may place a hold on a student's records that will block registration privileges. The hold will be indicated on the registration system. It is the student's responsibility to contact the appropriate office to clear any holds before attempting to register for classes.

Academic standards:
Academic Support Office ([801] 378-2723).

Ecclesiastical endorsement:
Honor Code Office ([801] 378-2847).

Financial status (prior balance):
Student Accounts ([801] 378-5415).

Graduate school:
Office of Graduate Studies ([801] 378-4091).

Loans:
Collections Office ([801] 378-7648)
Financial Aid Office ([801] 378-4104).

College advisement centers (CAC holds):
Biology and Agriculture ([801] 378-3042)
Education ([801] 378-3426)
Engineering and Technology ([801] 378-4325)
Family, Home, and Social Sciences ([801] 378-3541)
Fine Arts and Communications ([801] 378-3537)
Humanities ([801] 378-4789)
Marriott School of Management ([801] 378-4285)
Nursing ([801] 378-4173)
Physical and Mathematical Sciences ([801] 378-2095)
Physical Education ([801] 378-3638)
Open Major ([801] 378-3826)

# Academic Standards

Your academic standing in the university is determined according to the grades that you earn. The following outline shows the conditions and expectations according to a student's academic standing.

| Academic Status | Under These Conditions | Expectations |
|---|---|---|
| SATISFACTORY STANDING | Occurs when your most recent semester/term GPA and your BYU cumulative GPA are 2.0 or above. | Continue to maintain a BYU cumulative GPA of 2.0 or higher until graduation. |
| PREVIOUS | Same as satisfactory status but used to indicate those students who have been on Probation or Suspension in the past. | Same as satisfactory status. Students on previous status will go directly to probation if in the future they have a semester below 2.0. |
| WARNING | Occurs when your most recent semester/term GPA falls below 2.0. | Contact the Academic Support Office (151 SWKT) for assistance. |
| WARNING with REGISTRATION BLOCK | Occurs when your BYU cumulative GPA falls below 2.0 and you have completed more than one semester/term at BYU<br>OR<br>Occurs when your semester/term GPA falls below 1.0. | Contact the Academic Support Office (151 SWKT) to review your academic status. You **will not** be allowed to register for future semesters/terms until you have obtained clearance through the Academic Support Office. |
| PROBATION with REGISTRATION BLOCK | Occurs when you are on warning status and your next semester/term GPA falls below 2.0<br>OR<br>Occurs if at any previous time you have been on probation or suspension status at BYU and your semester/term GPA again falls below 2.0<br>OR<br>Occurs if your semester/term GPA is 2.0 or above and your BYU cumulative GPA remains below 2.0 and you have been moved to probation status. | Contact the Academic Support Office (151 SWKT) to review your academic status. You **will not** be allowed to register for future semesters/terms until you have obtained clearance through the Academic Support Office.<br><br>**Note:** If you are receiving university or federal financial aid, you must also contact the Financial Aid Office (A-41 ASB). Students on probation usually are not eligible for financial aid. |
| SUSPENSION | Occurs when you are on probation status and your next semester/term GPA falls below 2.0<br>OR<br>Occurs when you fail to comply with the conditions prescribed by the Academic Support Office. | 1. Suspended students are denied continued enrollment. If you are suspended and desire to return to BYU at some future point, you must qualify for readmission. If you wish to appeal your suspension, you must contact the Academic Support Office (151 SWKT).<br>2. If you have preregistered and/or paid any fees for a subsequent semester or term, you **must** withdraw (discontinue) and arrange for a tuition refund. Contact the Academic Support Office (151 SWKT) for assistance.<br>3. Suspension will be noted on your official BYU transcript. |
| DISMISSAL | Occurs when you are suspended a second time from the university. | Academic dismissal is noted on your official BYU transcript. You will need to seek other options to continue formal education. |

**Note:** Registration blocks may also be set by college advisement centers on students not progressing toward graduation in timely ways. In such cases, students must also meet with their college advisement center to have this block removed.

# Grading and Records

## Grading

Grade point averages are computed by assigning numeric values to the letter grades:

### Letter Grade Values

| | | | |
|---|---|---|---|
| A | 4.0 | C | 2.0 |
| A– | 3.7 | C– | 1.7 |
| B+ | 3.4 | D+ | 1.4 |
| B | 3.0 | D | 1.0 |
| B– | 3.0 | D– | 0.7 |
| C+ | 2.4 | E, UW, I, IE, WE | 0.0 |

The grade given in a course is the teacher's evaluation of the student's performance, achievement, and understanding in that subject as covered in the class. The following adjectives indicate the meaning of the letter grades:

| | |
|---|---|
| A | Excellent |
| B | Good |
| C | Satisfactory |
| D | Minimum passing |
| E | Unacceptable |

Hence, the grade **A** means that the student's performance, achievement, and understanding were excellent in the portion of the subject covered in the class.

There are prerequisites that qualify students to be admitted to the more advanced classes offered by a department. A senior has added experience, understanding, and preparation and, consequently, progresses in courses that would have been impossible when the student was a freshman. The level of performance, achievement, and understanding required to qualify for each grade that carries credit (any grade other than E, UW, I, IE, or WE) is higher in a more advanced class than in those classes that precede it, and the student is prepared to work at this higher level.

If a student withdraws officially from a class during the first ten class days of a semester or the first six class days of a term, the permanent record will not show a registration for that class. If the student properly withdraws from a class between the eleventh and twenty-fifth class days of a semester or between the seventh and thirteenth class days of a term, the record will be marked **W** (official withdrawal).

A **WE** grade will be given if a student petitions to withdraw from a class after the deadline and he or she is failing the class at that time.

A **UW** grade indicates that a student unofficially withdrew or stopped attending a class and did not officially withdraw with the Registration Office. An instructor should give a UW when a student stops attending a class before the nonacademic emergency deadline of a semester and does not take the final exam. In addition, if an instructor fails to assign a student a letter grade on the grade roll, the student will automatically receive the grade UW. The UW is calculated in the GPA as a failing grade.

A grade of **P** indicates a passing grade. It has no effect on the GPA.

The letter grade **I** (Incomplete) is given on a contractual basis with the instructor for students who are eligible to complete the work in a prescribed time period. An incomplete is only given when extenuating circumstances (serious illness, death in the immediate family, etc.) occur after the twelfth week of a semester or the sixth week of a term. If the extenuating circumstances arise before the *twelfth week* of a semester or the *sixth week* of a term, students should petition through the Registration Office to withdraw officially from the class(es) if they are unable to complete the course(s). The Incomplete Grade Contract must be completed and signed by the instructor and the fee paid before submission of the official grade roll at the end of the semester. A copy of the Incomplete Grade Contract must accompany the grade roll, or the grade will be changed to an E.

An incomplete is never given when one is failing or has failed the course. The instructor should indicate a specific length of time in which the student must complete the incomplete, not to exceed one year. Class attendance in a subsequent semester or reregistration is not permitted to make up the incomplete. In some special instances, such as a lab class, attendance may be required for the portion of the class or lab section missed. Once the work has been completed, the instructor should complete the portion of the Incomplete Grade Contract, showing the grade earned, and submit the form to the Records Office (B-150 ASB, PO Box 21114).

*An incomplete is computed in the grade point average as a failing grade until the course work has been completed and the official grade has been submitted by the instructor.*

The grade of **IE** indicates that the time period for completing the incomplete grade has expired. The IE grade is computed as a failing grade.

A grade of **T** indicates course work in progress and is only used in certain approved courses in which work may extend beyond the semester. The T grade may be changed to A, B, C, D, E, or P, depending on the grade rule for the course, when the work is completed.

**NS** is placed on the permanent record when a grade roll has not been submitted by the instructor, and one year is granted to effect a change. During that time, or until corrected, the NS will not be considered in computing the grade point average.

Once recorded in the Records Office, no final grade may be changed except to correct the permanent record when calculation error has been made. When such corrections need to be made, an official Grade Change Authorization Form must be completed and sent to the Records Office.

### Numeric Grade Values (Law School)

In fall semester 1987 the Law School was granted permission to grade their courses on the numeric grading system. In fall semester 1994 the Law School was granted permission to change the numeric grading system to a new numeric scale. All Law School students with previously earned numeric grades had their grades converted to the new numeric scale:

| 1987–1994 | Description | Fall 1994 |
|---|---|---|
| 80–90 | Superior | 3.7–4.0 |
| 75–79 | Excellent | 3.3–3.6 |
| 71–74 | High pass | 3.0–3.2 |
| 66–70 | Pass | 2.7–2.9 |
| 59–65 | Low pass | 2.2–2.6 |
| 50–58 | Fail | 1.6–2.1 |

## Resolving Academic Grievances

Despite the well-meaning efforts of students and faculty alike, there may be times when students feel that they have been treated unjustly or that their work has been evaluated unfairly or inadequately by an instructor. Such occasions can be even more frustrating if students are unsure of the procedure for presenting their grievance. The following guidelines should help successfully resolve the problem.

1. Ideally, the student should first bring the grievance to the attention of the instructor involved, who is better acquainted with the situation than any other member of the faculty. Most instructors are anxious to work through differences with their students in a sensitive and fair-minded manner.

   If (a) the instructor is not available, (b) the student feels strongly that the instructor will not deal with the grievance fairly, or (c) bringing the grievance to the attention of the instructor does not resolve the problem to the student's satisfaction, the student may appeal to the chair of the instructor's academic department.

   The chair will consider the grievance and within thirty days will notify the student, the instructor, and the college dean of the decision. The decision can include a recommended grade change.
2. If the student is dissatisfied with the department chair's decision, the student may appeal *in writing* to the dean of the college within which the department is housed no later than thirty days after the date of the chair's notification letter. The written appeal should include the details of the grievance and an outline of the student's efforts to resolve it prior to making this appeal to the college dean.
3. The college dean will give the student the choice of having the grievance resolved directly by the dean or by a three-member committee chaired by a full-time member of the faculty selected by the dean. Should the student choose to have the grievance appeal heard by the three-person committee, the other two committee members will be appointed by the student and the instructor, respectively. Each must either be a full-time student or a full-time faculty member.
4. When the grievance is heard by the dean or the committee, both the student and the instructor may call witnesses to be questioned by the other party and by the dean or committee members. The number of witnesses and the conduct of the hearing will be determined by the dean or the committee chair.
5. The dean's or committee's decision (its majority vote) will be final and not subject to appeal. The decision can include a grade change. The student will be notified in writing of the decision within thirty days of the hearing date.
6. Please realize that the same appeal process is available to the instructor. In other words, if the instructor is not satisfied with the department chair's decision, he or she may appeal to the college dean.
7. The student must bring the grievance to the attention of the instructor or the department chair within one calendar year from the last day of the examination period in the semester or term in which the problem originated. For example, if the grievance occurred in the course offered winter semester, the student must initiate the grievance procedure before the final day of the following year's winter semester examination period. Where military service or an LDS mission makes it difficult to bring the problem to the attention of the instructor or department chair, a later consideration may be permitted.

Questions regarding these guidelines should be directed to the Office of the Dean of Student Life (380 SWKT, PO Box 25542, [801] 378-4668).

## Scholastic Recognition Each Semester

The dean of each academic college at the close of each semester will post a list of names of undergraduate students who are ranked in the top 5 percent of their college for the given semester, who have earned a minimum of 14 credit hours, and who have earned a minimum grade point average of at least 3.5 for the semester.

## Grade Reports

Grade reports are available at no charge for all day and evening school students after the semester has concluded. Grade reports will be mailed to students who leave self-addressed, stamped envelopes containing their social security number at the Records Office.

Grades can also be obtained by the student using the Touch-Tone Telephone Information System or by using an AIM terminal.

# Records

Records Office (B-150 ASB, PO Box 21114, [801] 378-2631)

The Records Office is the official guardian of all permanent records of all academic work done at the university. The office is also responsible for issuing official transcripts of credit. Official transcripts include only courses completed through BYU.

## Classification of Students

At the beginning of each semester, students are classified for that semester as follows:

| Credit Hours Earned | Classification |
|---|---|
| 1–31.9 | Freshman |
| 32–63.9 | Sophomore |
| 64–95.9 | Junior |
| 96 and over | Senior |

## Student Records Policy

Under the Family Educational Rights and Privacy Act of 1974 (FERPA), students, with a few statutory exceptions, have the following rights related to their educational record:

1. The right to inspect and review their educational records. Education records may be found in a variety of locations on campus. However, students may gain access to many of their educational records by applying at the Office of the Registrar.
2. The right to petition BYU to amend or correct any part of the education record believed to be inaccurate, misleading, or in violation of their privacy rights. Petitions may be filed at the Office of the Registrar.
3. The right to consent to disclosure of personally identifiable information contained in the student's educational record, except as otherwise authorized by law. Examples of exceptions to consent of disclosure are access of educational records by university officials and teachers having a legitimate educational interest and to parents who establish the student's dependency for income tax purposes by providing over half of the student's support.
4. The right to file a complaint with the Family Policy and Regulations Office, U.S. Department of Education,

Washington, D.C. 20202, if BYU is in violation of their rights under FERPA.

5. The right to obtain a complete copy of the BYU Access to Student Records Policy by writing or coming to the Records Office, B-150 ASB, PO Box 21114, Provo, UT 84602-1114.

BYU has designated the following student information as directory information that it may disclose to the public without the consent of the student:

- Name
- Addresses and phone numbers
- Month, date, and place of birth
- Names of parents or spouse
- Major and minor fields of study
- Participation in officially recognized activities and sports
- Weight and height of members of athletic teams
- Current class schedule
- Pictures
- Dates of attendance (current and past)
- Number of months/semesters enrolled
- Class standing (freshman, sophomore, etc.)
- Total hours earned
- Enrollment status (full-time, part-time, less than half-time)
- Degrees and awards received
- Previous educational institutions attended
- Anticipated future enrollments
- Course registrations prior to the beginning of a semester or term
- Expected date of graduation
- Deferred registration eligibility
- Religious affiliation to a student's local church or congregation

Students have the right to restrict disclosure of the above directory information. To request restriction of disclosure, students must file a written request on or before the tenth day of a semester or the sixth day of a term. Forms for this request are available in the Office of the Registrar.

This brief summary does not provide all the details of the university's Access to Student Records Policy. Additional information concerning the application of FERPA to BYU as well as a copy of the complete policy may be obtained from the Office of the Registrar, B-150 ASB, PO Box 21114, Provo, UT 84602-1114.

## Transcript Record Holds

A hold will be placed on a student's record for failure to meet university obligations (fees outstanding, university standards violations, etc.). Until the obligation is fulfilled, no copy of the academic record or diploma or information about the record will be released, and graduation may be delayed or denied.

## Special Notations on Transcript

Grade suspension and academic dismissal appear on a student's transcript when action has been taken by the Academic Support Office (see the Academic Support section of this catalog). University suspension or university dismissal may appear on a transcript as determined by the Honor Code Office. Generally these notices do not place a hold on a student's record but do give notice to another university of action taken against the student.

## Credits

Students earn approved university credit in the following ways:

1. Complete work in regular courses offered at BYU.
2. Complete college-level courses through Independent Study, Evening Classes, or other Continuing Education programs.
3. Transfer credit for college-level courses completed at an accredited college or university and transferred to Brigham Young University. (See the Admissions section of this catalog for further explanation on transfer college credit.)
4. Pass a separate examination in undergraduate courses offered by the university. (See current BYU Graduate Catalog for information on how to challenge graduate courses.) The courses offered in religion, cooperative education, physical education activity classes, and other activity participative courses, such as dance, music, youth leadership, and ROTC, may not be challenged. The department reserves the right to determine whether or not a course may be challenged.

   Arrangements for challenging a course are made through the chair of the department offering the course. A $20 nonrefundable fee is charged before each separate examination.

   Students who successfully pass the examination must submit the form to the Records Office (B-150 ASB) within *one* year of the examination. Only students who are currently enrolled or have completed at least one course at BYU other than Independent Study courses are eligible for this option. Students who are suspended or dismissed from the university are not eligible for it.
5. Complete the Advanced Placement (AP) examinations. Students who score a composite grade of 5, 4, or 3 in any subject may receive up to 8 semester hours of college credit in that subject.
6. Complete the College Level Examination Program (CLEP). BYU will grant 3 semester hours of credit in each general exam in which a student scores 610 or higher. The university will also grant credit equivalent to the course that is taught at BYU for most of the CLEP subject examinations. For additional information, contact the Admissions Office (A-183 ASB).
7. Serve in the armed forces. Students who have been on active duty in the service for more than one year can receive 1 semester hour of physical activity, 0.5 semester hour of physical fitness, and 4 semester hours in military science. Additional credit may be granted for college-level training and experience in the service. To receive credit, bring the military service DD-214 form to the Academic Advisement Office (B-268 ASB).
8. Students who complete the International Baccalaureate (IB) examinations will receive college credit. An IB course at the subsidiary level will normally be given 3 hours of general credit. An IB course completed at the higher level may receive 6 hours of general credit and possibly fill a general education requirement.

**Earning BYU Credit While on Suspension:** Students who have been suspended from Brigham Young University are not eligible to enroll in courses through day school, evening school, or any of the Continuing Education programs offered by the university except those courses offered through Independent Study. Students should consult their advisement center to determine which Independent Study courses to take.

## Repeating Classes

To have a previously completed course marked *repeated*, the new course must be equal or greater in credit hours. When a class has been repeated, the credit used in computing the grade point average is the grade and credit hours earned the last time the repeated class was taken. Students may repeat classes in the following ways:

1. Repeat Brigham Young University courses at Brigham Young University (except for R-suffix courses—see Abbreviations and Symbols in the Using This Catalog section).
2. Repeat at Brigham Young University courses initially taken at another university. (A statement of equivalency must be supplied by the appropriate BYU department chair.)
3. Repeat at another institution courses taken there and have the credit transferred to Brigham Young University.

**Note:** A course repeated at an institution other than the one at which it was taken originally and other than at BYU will not be counted as a repeat.

# Discontinuance and Student Academic Record Appeals Committee

## Discontinuance

Discontinuance Office (B-150 ASB, PO Box 21114, [801] 378-7705)

To withdraw from the university, day students who have registered for classes must officially discontinue. Before the first day of class, students may use the Touch-tone telephone discontinuance feature (see current class schedule for instructions). After classes begin students must discontinue through the Discontinuance Office.

Students who have registered for classes and paid tuition must officially discontinue to drop classes and initiate a tuition refund. (Refer to the Tuition and Fees section of this catalog for refund information.) Students who have registered for classes but *have not* paid tuition must also discontinue. If these students do not withdraw before the start of classes, they will be billed for tuition up to the official date of discontinuance.

The discontinuance process includes the following:

1. Before classes begin students may use the Touch-tone discontinuance feature (see current class schedule).
2. After classes begin consult with the Discontinuance Office representative and complete discontinuance forms available from the Discontinuance Office.
3. If discontinuing during or after the sixth week of the semester (or third week of the term or block), obtain signatures of individual class instructors (student is now responsible for grades earned in class). The instructor will indicate an official withdrawal (W) or an academically failing (WE) withdrawal grade.
4. Submit discontinuance forms and be signed out by a Discontinuance Office representative.
5. Upon discontinuance, the student's ID will be electronically voided.

All undergraduate students who discontinue during a major semester (fall or winter) or during the term for which they were accepted should contact the Admissions Office about future readmission eligibility. To withdraw after the twelfth week of the semester (or fifth week of a block or term), students must file a petition with the Registration/Records petition secretary (B-150 ASB, PO Box 21114) rather than contacting the Discontinuance Office.

Those students registered as Evening Classes students only must discontinue through the Office of Evening Classes (120 HCEB, PO Box 21513). Law School students must initiate their discontinuance through the office of the Law School dean (348-AJRCB, PO Box 28001).

Students who leave the university under emergency conditions and subsequently do not return still have the responsibility to discontinue before the discontinuance deadline. Official termination can be completed by contacting the Discontinuance Office at the earliest possible time.

## Student Academic Record Appeals Committee

The Student Academic Record Appeals Committee has been established for students who encounter situations involving non-academic extenuating circumstances or emergencies potentially affecting their educational records that fall outside the realm of normal university policy and procedure. The petition process must be initiated within *one* year from the semester or term in question. It is the student's responsibility to obtain the necessary supporting information from the instructor, physician, employer, etc., to accompany the request. Petition forms may be obtained in the Records Office (B-150 ASB, PO Box 21114).

# Graduation

Graduation Evaluation Office (B-238 ASB, PO Box 21222, [801] 378-3641)

## Graduation Information

### Adherence to University Standards

Graduation may be delayed or denied for students who violate the BYU Honor Code, whose ecclesiastical endorsement has been withdrawn, or who have unmet financial obligation with the university.

### Application for Graduation

All who wish to graduate must officially apply for graduation. Students who are applying for the bachelor's degree should do so during their junior year. Application forms are available at the college advisement centers. Submit the completed application form and the graduation fee of $15 for a bachelor's degree to the Cashiers' Office (D-155 ASB, PO 21128) no later than September 20, 1996, for December graduation; January 24, 1997, for April graduation; and May 23, 1997, for August graduation.

Students who apply after the deadline dates will automatically be considered for the next graduation. The Graduation Evaluation Office (B-238 ASB, PO Box 21222) will notify students in writing of the General Education and university requirements remaining. The application fee is a one-time fee. Should a student not graduate on the date shown on the application, the evaluation will be held for future graduation.

### Attendance at Commencement

All candidates for graduation are encouraged to attend the commencement and convocation exercises. Diplomas will be mailed to students after all grades are submitted and all graduation requirements are certified complete. Commencement exercises are held in April and August.

### Deadlines for Transfer, Correspondence, and Incomplete Credit

All incomplete grades must be removed from the student's record, special examinations and General Education requirements must be passed and recorded, and all transfer and correspondence (Independent Study) credit must be on file in the Records Office at least four weeks before commencement.

### Earning Lower Degree after Receiving Higher Degree

A person who has earned a higher degree is ineligible to earn a lesser degree at BYU unless exception has been granted by the Student Academic Record Appeals Committee (B-150 ASB, PO Box 25533).

### Independent Study Credit

A maximum of 36 semester hours of Independent Study credit may be applied toward the 128-semester-hour requirement for a baccalaureate degree.

## Scholastic Recognition

### University Honors

University Honors will be awarded to any graduating senior who completes the following requirements:

1. Six or more GE courses designated as Honors courses that are in areas outside the major.
2. 3.5 GPA.
3. GE language requirement.
4. GE math requirement.
5. Honors thesis (a serious research project in one's major, usually undertaken the senior year).
6. Honors Undergraduate Required Reading List.
7. Application for Honors designation submitted by the established deadlines.

More detailed explanations of the University Honors Program are available in 350 MSRB, PO Box 22600, and in the University Honors Education section of this catalog.

### Latin Scholastic Distinctions

Latin Scholastic Distinctions at graduation are determined by GPA for the top 10 percent of the graduating seniors based on cumulative and BYU grade point averages.

*Summa Cum Laude* is awarded on the basis of grade point average to the top 1.0 percent of the baccalaureate candidates who have earned a minimum 45 semester hours of credit at BYU.

*Magna Cum Laude* is awarded on the basis of grade point average to the top 1.1 to 5.0 percent of the baccalaureate candidates who have earned a minimum 45 semester hours of credit at BYU.

*Cum Laude* is awarded on the basis of grade point average to the top 5.1 to 10.0 percent of the baccalaureate candidates who have earned a minimum 45 semester hours of credit at BYU.

## Graduation Requirements

### Staying Abreast of Changes

University graduation requirements (General Education, religion, health, physical fitness, physical activity, and major) change with curriculum, program, and faculty changes. The university informs students of such modifications through its published curriculum materials (this catalog and the class schedules). Students who leave the university for an extended

period of time should stay abreast of such changes through these documents.

## Baccalaureate Degree Requirements

The baccalaureate degree at BYU is awarded for the equivalent of four years of dedicated university study. It marks not just achievement, but important changes in outlook that come as the result of an extended university experience. At BYU this includes not just the discipline of a major, but the foundation of religious education and the enlarged perspective of General Education. A student may have more than one major, but there is only one baccalaureate degree.

*General Education Requirements for the Baccalaureate Degree*

See the General Education section of this catalog for complete information.

| Languages of Learning | Number of Courses | Usual Credit Hours |
|---|---|---|
| Precollege Mathematics | 0–1 | 0–3 |
| First-Year Writing | 1 | 3 |
| Advanced Writing | 1–4 | 3–8 |
| Advanced Languages (Foreign Language, Mathematics, or Music) | 1–4 | 3–20 |
| **Liberal Arts Core** | | |
| Biological Science | 1–2 | 3–6 |
| Physical Science | 1–2 | 3–6 |
| American Heritage | 1–2 | 3–6 |
| Wellness | 1–3 | 1.5–3 |
| History of Civilization | 2 | 6 |
| **Arts and Sciences Electives** | | |
| Arts and Letters elective | 1 | 3 |
| Natural Sciences elective | 1 | 3–4 |
| Social and Behavioral Sciences elective | 1 | 3 |

(See the GE course list in the current class schedule for all authorized GE courses.)

| | | |
|---|---|---|
| **Total** | 12–24 | 34.5–71* |

*Actual credit hours will depend on precollege preparation and course choices.

*Religion Requirement for the Baccalaureate Degree*

14 hours of BYU religion classes.

**Religious Education Requirements:** Religion requirements are listed in the Religious Education section of this catalog.

## Upper-Division Requirement

A minimum of 40 semester hours of upper-division credit (classes numbered 300 to 599) is required for a bachelor's degree.

Transfer credit from junior colleges or other lower-division credit (freshman or sophomore level) from other colleges is not applicable for this graduation requirement.

A few lower-division courses at specified colleges have been accepted by major departments to substitute for upper-division BYU courses, but these will not be counted toward the upper-division requirement of 40 semester hours.

## Residency Requirement

At least 30 semester hours of credit taken in residence at BYU are required for a bachelor's degree. A maximum of 10 semester hours earned at BYU Continuing Education centers or at Church institutes of religion may be applied toward this 30-hour requirement. Students must register and be on campus during two semesters—not necessarily consecutive—to satisfy the residency requirement.

## Total Credit-Hour Requirement

A candidate for a bachelor's degree must complete a minimum of 128 semester hours of earned credit.

## D Grade Credit

No more than 18 semester hours of D grade credit may be applied toward baccalaureate degree requirements. Excess D grade credit will be deducted from total hours completed.

## Grade Point Average Requirement

To graduate from BYU students must earn a minimum 2.0 BYU grade point average and a minimum 2.0 cumulative grade point average. Students must also meet minimum grade point average requirements in their major.

## Major Requirements

Students must complete at least 20 semester hours in their major department, 10 of these on the BYU campus. Students must also satisfy any additional departmental requirements.

### Double Major

A class used in a student's primary major cannot also be used in a second major or a minor without the prior written approval of both the department chairs and the dean(s) of the college(s) involved. Students should see their college advisement center for details.

**Note:** Any hold, warning, or probation by the Honor Code Office must be properly cleared well before graduation.

## Policy on "Old" Graduation Requirements and Credit

Brigham Young University is committed to providing its students with an excellent university education consisting of a broad general education that includes religious education and a strong major education. Programs of the university change and develop in the continuing effort to make learning and experience as valuable as possible. Development, growth, and improvement are expected parts both of our lives and our institutions. It is because of the commitment to a superb education that the university's programs develop and improve and that students are expected to meet the current standards of the university when they graduate, even though they may have begun their studies long ago under quite different expectations.

Students who complete a baccalaureate degree within eight academic years of enrollment at BYU qualify for graduation by meeting those religion, university, and General Education requirements in effect when they initially enrolled, even though there may have been changes in General Education and religion requirements since that time.

In addition, students who complete baccalaureate degrees within eight academic years of enrollment at BYU qualify for graduation by meeting those major education requirements in effect when they officially declared the major with which they graduated even though such declaration was made at some point following their original enrollment. (A student officially declares a major one of two ways: [1] by indicating the choice of major on part A of the university's Admission, Scholarship, and

Housing Application or [2] by submitting a Change of Major Form to a college advisement center at a subsequent time.)

Students who have not graduated within eight years of their initial enrollment at BYU will be required to meet with the dean and department chair in the area in which they are majoring to determine graduation requirements and the use of credit previously earned. Where General Education or major requirements have changed or where credit previously earned was in an area of substantial change, students may be required to do additional work to meet graduation requirements.

This means that credit earned more than eight years before admission or readmission (including transfer credit) will be accepted to meet General Education or major graduation requirements at the discretion of the university.

### Advisement

An important corollary of the university's commitment to provide its students with an excellent university education is its commitment to help students find their way through their programs effectively and efficiently. Students whose educational experience has reached over many years and who find that changes in programs will require additional work and preparation should consult with department advisors for help in planning their schedules in the best and most encouraging way possible.

The university's requirement that a student graduate under current or very recent standards is meant to benefit the student and is in no way established to deter a determined person from returning to the university after years away. Good advisement can be of great help in working out a program of study at the university, taking into account individual needs, concerns, and experience.

Students who return to the university after an extended absence should contact the Graduation Evaluation Office (B-238 ASB, PO Box 21222, [801] 378-3641) and confer with their college advisement center counselors and department advisors immediately upon returning to the university, both for advice and help concerning graduation requirements and for evaluation of their credit. In many instances it will prove possible to negotiate a schedule of classes that will allow the student to move toward a degree without lost effort.

# Religious Education

370 JSB, PO Box 25693, (801) 378-2735

**Dean:** Robert L. Millet, Professor, Ancient Scripture
**Associate Dean:** Donald Q. Cannon, Professor, Church History and Doctrine
**Associate Dean:** Larry E. Dahl, Professor, Church History and Doctrine

The following departments are in Religious Education:

Ancient Scripture
Church History and Doctrine

Religion courses are provided so that students may progress in their religious understanding and convictions simultaneously with their educational progress in secular fields. The Church of Jesus Christ of Latter-day Saints has always maintained that education is not complete without proper integration of secular and religious knowledge and values.

Religious Education administers all religion courses sponsored by the university. Courses are available in ancient and modern scripture, Church history and doctrine, and related subjects. Undergraduate majors are not offered in religion; however, some graduate offerings in the 500s and 600s are available for use as minors or supporting courses in some of the graduate degree programs of other departments at BYU.

## Religion Requirements

All students at BYU should include regular gospel study as a continuous part of their university experience. Full-time undergraduate students should take one religion class at BYU each semester of enrollment until a minimum of 14 semester hours in religion has been earned toward a bachelor's degree or 8 hours toward an associate degree. In either program, 4 hours of credit in Book of Mormon must be completed by all students who will graduate from BYU. This should be done during the first year here. Students may complete this requirement by taking RelA 121 and 122. *Returned missionaries must enroll in sections designated for returned missionaries.*

**No more than 4 hours of religion credit per term, quarter, or semester, whether taken at BYU or elsewhere, may be counted toward the religion requirement. (Spring and summer terms together equal a semester.) Semester Abroad programs may require exceptions.**

Part-time students and students enrolled for a term or a block must complete 2 credit hours of religion for every 16 hours of BYU registration.

Classes identified with numbers from 100 to 499 may be used to meet the religion requirement. Classes numbered in the 500s and 600s do not apply toward undergraduate religion credit.

### Students Entering BYU Before Fall Semester 1985

Complete the requirements as explained above.

### Students Entering BYU Fall Semester 1985 and Afterward

In addition to Book of Mormon, all students enrolled after summer term 1985 must complete one New Testament class and one Doctrine and Covenants class. The New Testament requirement may be filled by taking any one of the following: RelA 111, 200, 211, 212, 310, 311. The Doctrine and Covenants requirement may be filled by taking RelC 324 or 325.

Students who are not LDS are strongly encouraged to enroll in RelC 100, Introduction to Mormonism, during their first semester in residence. This course is designed to be informational, to introduce students to the culture, scriptures, and distinctive doctrines of The Church of Jesus Christ of Latter-day Saints, and to prepare them for subsequent religion classes. RelC 100 may be used to fill the core requirement of either New Testament or Doctrine and Covenants.

### Transfer Students

Transfer students must fulfill the BYU graduation requirement in religion according to the following four guidelines. Requirements 1 through 3 can be completed at an LDS institute of religion or one of the other Church Educational System schools, as well as at BYU. Requirement 4 can be satisfied only at BYU.

1. All students must complete the entire Book of Mormon sequence, RelA 121 and 122.
2. Students transferring with fewer than 64 semester hours (96 quarter hours) of college credit must complete one course in the New Testament and one course in the Doctrine and Covenants.
3. Students transferring with 64 or more semester hours but fewer than 96 semester hours (144 quarter hours) must complete one course in the Doctrine and Covenants.
4. *All students must complete a minimum number of religion credits at* ***BYU*** according to the following schedule, regardless of the number of religion hours completed elsewhere:

| Total Transfer Credits | BYU Religion Hours Required | |
|---|---|---|
| 0–15.9 | 14 | Book of Mormon (121 and 122), one New Testament class, and one Doctrine and Covenants class required. |
| 16–31.9 | 12 | |
| 32–47.9 | 10 | |
| 48–63.9 | 8 | |
| 64–79.9 | 6 | Book of Mormon (121 and 122) and one Doctrine and Covenants class required. |
| 80–95.9 | 4 | |
| 96 or more | 2 | Unless more hours needed to fill Book of Mormon requirement. |

**Note:** The transfer credits are shown in semester hours. To convert quarter hours to semester hours, multiply the quarter hours by two and divide by three (i.e., 12 quarter hours x 2 = 24 ÷ 3 = 8 semester hours).

### Courses for Ancient Scripture and Church History and Doctrine

See Religious Education in the Academic Departments, Degrees, and Courses section of this catalog.

### Students Studying Off Campus

BYU students who study off campus to fulfill degree requirements are required to register for a religion course during the semester. This can be fulfilled through Independent Study or at a BYU Continuing Education center.

### Religion Credit from Non-LDS Colleges and Universities

Religion credit from non-LDS universities and colleges will not satisfy the religion requirement at BYU. The transfer credit will, however, apply as elective credit toward the total hours required for graduation.

### Religion Credit Completed at Centers for Continuing Education

Students must complete 2 credit hours of religion for every 16 hours of registration at BYU Continuing Education centers.

### Preparation for Church Educational System Employment

To be considered for a profession as a seminary teacher, a student must obtain a bachelor's degree in a major of his or her choice and complete the seminary teacher training classes (RelC 370, 471). Following a student teaching experience in a local seminary, the most effective teachers are recommended for full-time assignments. Complete information is available through the Office of Seminaries and Institutes (207 JSB, PO Box 25693, [801] 378-2031).

## Graduate Programs

See the 1996–97 BYU Graduate Catalog.

## Religious Studies Center

(270 JSB, PO Box 25693)

The dean of Religious Education is also the general director of the Religious Studies Center, which promotes research in such areas as Ancient Studies, Bible, Book of Mormon, Church History, Doctrine and Covenants, Pearl of Great Price, Special Projects, and World Religions.

The center is a supporting and coordinating agency for religion-oriented research throughout the university and the Church, concentrating on research, writing, and other scholarly activities.

## Richard L. Evans Chair of Religious Understanding

The Richard L. Evans Chair of Religious Understanding promotes understanding among people of different faiths. Its purpose is to articulate to a broad audience the religious values to which Elder Evans dedicated his life and to promote an enlightening exchange among Latter-day Saints, members of other faiths, and other people of good will.

# General Education

302 MSRB, PO Box 22600, (801) 378-3038

**Dean:** Paul A. Cox, Professor, Botany and Range Science
**Associate Dean:** Susan Easton Black, Professor, Church History and Doctrine
**Associate Dean:** James E. Faulconer, Professor, Philosophy
**Assistant Dean:** Neal W. Kramer

## Undergraduate Education at BYU

There are three components to an undergraduate education at Brigham Young University: religious education, major education, and general education. Religion courses are provided at BYU so that students may progress in their religious understanding and convictions simultaneously with their educational progress in secular fields. Education in the major provides students with depth in a particular academic discipline. It introduces them to the type of thinking, language, and skills that prepare them for a career or further study in postgraduate or professional programs. General education is intended to provide students with intellectual breadth. General education covers the range of human accomplishments: the development of language and civilization; the arts; and the social, behavioral, physical, and biological sciences. These three aspects of the baccalaureate degree—religious education, major education, and general education—are described briefly below.

### Religious Education

The Church of Jesus Christ of Latter-day Saints believes secular understanding and skill are important attainments in life and will better serve the individual when accompanied by religious convictions, attitudes, and standards of behavior. Please refer to the Religious Education section of this catalog for more detail.

### Major Education

BYU offers nearly 150 undergraduate major programs. Most of these programs are centered in the more than 50 academic departments, but several interdisciplinary programs are also available. The complete list of these degrees is given in the Alphabetical List of Undergraduate Majors at Brigham Young University section of this catalog. Of the 128 credit hours required as a minimum for the baccalaureate degree, the major program typically comprises between 40 and 60 credit hours, with some exceeding 60 credit hours. Requirements for major programs are detailed under specific departments in this catalog. Students need not feel undue pressure to declare a major immediately upon entering the university, and they may wish to enroll in general education courses that can introduce them to possible areas for major study. However, some majors, including those in the natural sciences, engineering, music, and visual arts, are tightly structured. Efficient graduation from these programs requires students to undertake degree requirements during the first semester of their freshman year. Students who are considering these programs are encouraged to begin them as soon as possible. The academic departments and college advisement centers can provide advice about particular degree requirements and selection of a major.

### General Education

The General Education (GE) Program at Brigham Young University complements the other two areas of a university education. Through its perspective, we gain vantage points from which to view the development of our own culture and to see its relation to others.

GE courses teach one to think critically, and they pose questions that foster the development of moral judgment and aesthetic and cultural sensitivities. At Brigham Young University these courses are taught in the context of the restored gospel and the implications that the gospel of Jesus Christ holds for knowledge, truth, and society.

Revisions in the requirements of the GE Program have been approved for students who entered BYU fall 1995 or later. Students who entered prior to fall 1995 have the option to continue with their original GE program (if it is still in effect) or to switch to the new program. They are encouraged to meet with their college advisement center or faculty advisors to discuss the optimal program, given their current status.

### Description of the GE Program

The GE Program has categories called *Languages of Learning, Liberal Arts Core,* and *Arts and Sciences Electives*. Both the Languages of Learning and the Liberal Arts Core provide for multiple ways to satisfy individual requirements. The number of courses and credit hours needed to satisfy a requirement will vary with the particular option chosen and/or the student's previous preparation.

The objectives for each of the three areas are explained below. Brief statements of the ways to satisfy the requirements of the GE program are provided in the accompanying table. Detailed information concerning the mechanisms available to complete each requirement is given in the General Education Courses section of the current class schedule.

#### Languages of Learning

In our modern, complex society, the ability to communicate effectively is deemed a critical skill. Under the Languages of Learning category are grouped the areas of writing, mathematics, foreign languages, and music, each of which represent an important way to convey information and understanding. Because writing at the college level is considered essential to success at the university, students are asked to complete a first-year writing course. Later, once they have identified an area for major study, they are provided with an opportunity to develop writing skills in that discipline. To function in a technological society, a basic knowledge of mathematics as a means of communication and problem solving is essential. All students, upon admission, are asked to certify a basic level of numeracy, either with an appropriately high score on the Mathematics section of the ACT or SAT exams or by completion of a BYU course. We then ask that students exhibit a mastery of either mathematics, music, or a foreign language at an advanced level. At this level students achieve an exposure to

cultures and to the ways in which practitioners of the language structure their knowledge.

### Liberal Arts Core

A traditional university education has included introductions to the core or fundamental areas of knowledge. These have typically covered the biological and physical sciences and aspects of cultures and civilizations. Here at BYU we also include as part of our core an introduction to the political and economic foundations of the American democratic system and a requirement to assist in developing one's physical and mental well-being.

For every requirement in the core, with the exception of History of Civilization, there are two pathways to complete the requirement—a one-course option and a multiple-course (two or three) option. The multiple-course series are structured to cover much of the same material that is included in the one-course options but in greater depth.

The options for different core requirements are independent of each other. That is, one may choose the two-course sequence to satisfy the Biological Science core requirement but choose the one-course option for the Physical Science, American Heritage, and Wellness requirements. In general, students will find it most efficient to take the one-course options for a given requirement. However, students in some majors will find that a particular core requirement can be satisfied using the multiple-course pathway with courses they are already taking for their major. Students with career or personal interests outside their major may find that the multiple-course options better serve their needs. For example, the philosophy or language major who hopes to become a physician may satisfy the Physical and/or Biological Science core requirement by virtue of the science courses required for admission to medical school.

### Arts and Sciences Electives

The Arts and Sciences electives are divided into three categories: Arts and Letters, Natural Sciences, and Social and Behavioral Sciences. These three divisions encompass the spectrum of human endeavors. The objective of elective courses certified to satisfy this requirement is to introduce students in a little more focused way than the core courses to specific disciplines or areas of study. Students must take one course from each of the three areas. Unless the major program dictates a specific course, students are free to select from a large list of approved courses. These courses are certified for approval by a faculty council, and students are encouraged to check a current class schedule for an up-to-date list of approved courses.

Some courses are approved as both Arts and Sciences electives and as one of the multiple-course sequences for the alternate option to the Liberal Arts Core requirements. The same course cannot be used for both the elective requirement and to partially complete the core requirement.

Because a significant objective of general education is to provide breadth to the student's education, we recommend that elective courses be taken outside the major. However, once a course certified to satisfy an elective is completed, the GE requirement will be considered satisfied. Changes in majors will not affect the student's progress toward completion of the GE program. Nevertheless, the new major may impose additional requirements, such as a particular Advanced Writing course.

Where variable numbers of courses or credit hours are indicated, the effort required to complete the requirement depends upon the student's level of preparation. The complete list of courses currently certified to satisfy a particular requirement and additional details of how to complete the requirements are given in the General Education Courses section of the current class schedule.

## Selection and Timing of GE Classes

To gain approval to meet a GE requirement, a course is subjected to a rigorous evaluation. Such approval is not granted lightly, and students should ensure that the courses they select are, in fact, approved for GE credit. This information is updated each semester and term and is published in the current class schedule.

The Honors Program offers a number of courses that satisfy both GE and Honors requirements. These courses provide a deeper, more intense exposure to the subject matter for the student who is interested in a challenging experience. Additional information concerning these courses may be obtained from 102A MSRB, telephone (801) 378-5976, or by consulting the University Honors Program Course Guide.

Although the time to complete GE requirements varies according to the major, students should complete the First-Year Writing and Precollege Mathematics requirements during the freshman year. Students planning to satisfy the Biological Science, Physical Science, and American Heritage core requirements with the one-course options (e.g., Biol 100, PhyS 100, and AHtg 100) should also complete these during the freshman year. History of Civilization courses are designed as sophomore-level courses, although some programs include them during the freshman year. Advice as to when to complete the other GE requirements can be obtained at college advisement centers or department offices.

# Ways to Complete GE Requirements Other Than by Course Work

There are several mechanisms by which students may satisfy the components of the GE Program: passing special examinations at the university; transferring acceptable credit from other academic institutions; or receiving credit from Advanced Placement (AP) examinations or from the College Level Examination Program (CLEP).

## Special GE Examinations

General Education requirements can be accomplished by successful completion of a special examination. Two types of examinations are available, exemption and challenge exams. Exemption exams do not, as a matter of course, carry academic credit or grades. A passing score on an exemption exam shows on the Advisement by Computer (ABC) form only as a completion of the requirement.

**Challenge exams** as a group always carry academic credit and a letter grade. The student's transcript and grade point average reflect the score obtained on the exam. A schedule for taking exemption and challenge exams can be found in the current class schedule.

**Exemption Examinations.** Exemption examinations are offered in the Testing Center (265 HGB, PO Box 22701) for First-Year Writing, Precollege Mathematics, and Physical Science. These are given early each semester/term so that students may drop classes that their performance on an exam demonstrates are unnecessary and register for others. Consult the Testing Center and advisement centers for the specific dates of these exams. First semester/term students are permitted to take the First-Year Writing and Precollege Mathematics exams free of charge one time. All other attempts will be subject to a fee, payable at the Testing Center.

**First-Year Writing.** Those wishing to complete First-Year Writing by special examination may take the exam in the Testing Center. In addition to passing this examination, students will

need to complete an essay exam, take three tests in the Harold B. Lee Library, and submit samples of their writing to the English Composition Office for evaluation. All parts of the process must be completed within the period of the examination dates. Students who wish academic credit for successful completion of the First-Year Writing requirement may purchase the academic credit and have a grade recorded on the transcript. The Reading/Writing Center (1010 JKHB, PO Box 26091) is available to assist students who are preparing for the First-Year Writing exam.

**Physical Science.** While offered primarily as an exemption exam, students may elect, after completion of the exam, to purchase academic credit for the course and have the grade from the exam posted to the transcript.

**Precollege Mathematics.** Since the Precollege Mathematics requirement is typically satisfied by a course (Math 97) that carries no credit, the option to purchase academic credit is not available for this examination.

**Challenge Examinations.** Some challenge exams are offered through the Testing Center and others must be arranged through departments. There is a fee to take each examination. In addition, to satisfy the GE requirement, students must request academic credit in order to have a letter grade posted to the transcript and reflected in the grade point average. The procedure to take exams and request academic credit is described below.

**Receiving Course Credit.** For examinations given at the Testing Center, go to the Testing Center on one of the scheduled examination dates (see current class schedule for examination dates), pay the required fee, and take the test. Upon successful completion of the exam, obtain a Class Credit Request Form from the Testing Center and have it validated there. Students who pass the First-Year Writing exam must obtain this form from the English Composition Office (3110 JKHB, PO Box 26204) and have it signed by the coordinator of composition. Take the validated form to the Records Office (B-150 ASB, PO Box 21114). The form must be submitted to the Records Office within one year after completing the exam.

Students enrolled in the course whose exam they have just passed must also complete a Change of Registration Form and drop this course. Failure to officially drop it before the university deadline will cause the grade given by the course instructor to appear on the transcript rather than the grade based upon the challenge exam performance.

For examinations not given in the Testing Center, contact the department that offers the course during the first two weeks of the semester/term, complete the Special Examination Form available there, and arrange a date to take the test. Go to the Cashiers' Office (D-155 ASB, PO Box 21128) pay the required fee, and have the form validated there. Present the validated form to the departmental examiner at the time of the test; have the grade and credit recorded on that form by the departmental examiner after the test has been taken and scored. Present the completed form to the Records Office (B-150 ASB, PO Box 21114) The form must be submitted within one year after completing the exam.

## Transfer Credit

The application of transfer credit to GE requirements is handled by the Transfer Evaluation Office (B-238 ASB, PO Box 21222). Consortium agreements have been reached with several junior and community colleges to facilitate the transfer process for students who have completed certain associate degrees. The Transfer Evaluation Office can be contacted for up-to-date information regarding the status of those agreements with a particular junior or community college.

## Advanced Placement and International Baccalaureate Credit

The results of some Advanced Placement (AP) exams may be used to waive certain GE requirements and to obtain general university credit. AP credit posted to a transfer institution will be evaluated upon BYU's standards and not those of the transfer institution. A policy regarding international baccalaureate (IB) credit is now under review. The Academic Advisement Office (B-238 ASB, PO Box 21222, [801] 378-3641) can be contacted for details regarding credit hours and exemption from GE requirements for both AP and IB exams.

## College Level Examination Program

BYU will grant credit for the College Level Examination Program (CLEP). For each general examination on which a student scores 610 or higher, the university will grant 3 hours of credit. Students can contact the Admissions Office (A-153 ASB, PO Box 21110, [801] 378-2507) for additional information.

**1995 GENERAL EDUCATION PROGRAM**
**A Summary of Its Categories and Course and Credit-Hour Requirements**

| | | | | |
|---|---|---|---|---|
| **LANGUAGES OF LEARNING** | | | | |
| **Precollege Math** | Appropriate score on Mathematics sections of ACT or SAT exam or one approved course. | | | 0–3 |
| **First-Year Writing** | One course. | | | 3 |
| **Advanced Writing** | One course or course sequence. | | | 3–8 |
| **Advanced Languages:** Three options | **Foreign Language** | **Mathematics** | **Music** | 3–20 |
| | Variable credit required depending upon prior foreign language experience. | One course beyond Math 110 or Phil 205. | Variable credit required depending upon prior music experience. | |
| **LIBERAL ARTS CORE** | | | | |
| **Biological Science:** Two options | One core course. | Two approved noncore courses from different areas of biology. | | 3–6 |
| **Physical Science:** Two options | One core course. | An approved noncore course each from two departments (Chemistry, Geology, Physics). | | 3–7 |
| **American Heritage:** Two options | One core course. | An approved set of two courses, one course to include the U.S. Constitution. | | 3–6 |
| **Wellness:** Two options | One core course. | Three physical education or dance activity classes. | | 1.5–2 |
| **History of Civilization** | One course covering antiquity to 1500 A.D. and one course from 1500 A.D. to modern times. | | | 6 |
| **ARTS AND SCIENCES ELECTIVES** | | | | |
| **Arts and Letters** | One course from approved list. | | | 3 |
| **Natural Sciences** | One course from approved list. | | | 3–4 |
| **Social and Behavioral Sciences** | One course from approved list. | | | 3 |
| **GE** | | | | **Subtotal: 34.5–71** |

# University Honors Education

350 MSRB, PO Box 22600, (801) 378-3038

**Dean:** Paul A. Cox, Professor, Botany and Range Science
**Associate Dean:** Susan Easton Black, Professor, Church History and Doctrine
**Associate Dean:** James E. Faulconer, Professor, Philosophy
**Assistant Dean:** Neal W. Kramer

## University Honors at Graduation

"University Honors" is a distinction awarded to all graduates of BYU who have met the Honors requirements in general education as described below. This prestigious designation is recorded on the university diploma, on the official transcript of grades, and in the graduation program. All Honors classes taken and the Honors thesis title also appear on the transcript.

## University Honors with Honors in a Major

Certain departments have established Honors majors that build on the foundation of the Honors requirements in general education. Students majoring in these departments who meet the requirements for graduation with University Honors have the additional option of meeting the requirements of the Honors major and graduating with "Honors in [a certain major]." Thus, a student may graduate with "University Honors and Honors in Chemistry," for example. (Note, however, that it is not possible to graduate with Honors in chemistry unless one also satisfies the requirement for graduation with University Honors as well.) For the name of the Honors advisor in a certain department, consult the University Honors Program Course Guide or contact the departmental office. Honors majors can be completed in art history, applied physics, chemistry, communications, comparative literature, economics, electrical and computer engineering, English, French, geology, German, history, humanities, Italian, management, mathematics, mechanical engineering, microbiology, molecular biology, music, philosophy, physics, Portuguese, Russian, Spanish, statistics, studio art, and zoology.

## Participation in Honors

Honors Education provides an unusually rich and challenging experience for capable and motivated undergraduate students. Honors Education is not merely a more intensive general education or a more strenuous program in a major. Rather, it attempts to link the broad university perspective with the specific concentration associated with a major. Students who pursue Honors Education at Brigham Young University will be offered the challenge of Honors courses that form a part of their general education, as well as an intensive experience in their major.

To graduate from BYU students must meet not only the requirements of a major department but also the requirements of General Education and religion. Most students complete the nonmajor requirements through courses in the general university curriculum. Capable and motivated students are invited to satisfy general education and religion requirements through Honors. Although it is hoped that students will choose to complete all of the requirements for the University Honors designation, those who do not intend to do so are still invited to participate in the Honors curriculum to whatever extent they choose.

Honors Education is open to all capable and motivated students and only requires a formal commitment of intent (1) to graduate with University Honors, (2) to register for at least one Honors course each semester of the first two years in the program, and (3) to maintain a 3.5 GPA. Commitment forms may be obtained in 102A MSRB.

Indicators of "capable" include a composite ACT score of 28 or above, a high school GPA of 3.8 or above, or a university GPA of 3.5 or above. Defining "motivated" is more difficult. It would be a mistake to recommend Honors courses only to those students with high scores, either GPA or ACT, since it is difficult to gauge a student's ability from scores alone. Such scores may not say much about such important inner qualities as determination, discipline, and initiative or about recent achievements that may contrast with earlier performance. All students are invited to consider Honors as a way to achieve the kind of academic experiences they seek. Students may register for Honors courses at any time during their undergraduate years without necessarily intending to complete all the Honors graduation requirements.

## The Advantages of Honors

### Faculty

The most important advantage of enrolling in Honors is the opportunity to participate in demanding, high-quality courses taught by some of the university's best professors. In addition, Honors provides a stimulating learning environment outside formal course settings.

### Curriculum

Honors offers a curriculum core consisting of two semesters in History of Civilization and an intensive writing course. Beyond this core, Honors colloquia, seminars, and departmental Honors courses provide a variety of experiences for Honors students in the historical development of ideas, cultures, arts, letters, and the sciences; these offerings are discussed more fully below.

**Honors Colloquia.** Each semester, Honors sponsors several Honors colloquia that bring together teams of the university's most respected professors from diverse disciplines to teach a variety of broadly based subjects. The colloquia are interdisciplinary in nature and taught by at least two and often three professors from different fields. These courses allow a

unique flexibility in method and content and stress the complementary nature of various disciplines in dealing with our cultural heritage and modern problems. Recent colloquia include "Use and Misuse of Human and Natural Resources: Man's Role in Changing the Face of the Earth," "The Unacknowledged Revolution: Printing as an Agent of Change in the History of the World," "The Daedalus Project," "Texts of Influence on the Jewish and Christian Religious Heritages," "Women's Wellness," "Jerusalem: Past, Present, and Future," and "Memoir and Imagination."

The particular subjects and faculty differ across colloquia. Some provide an integrated approach. Others are intended primarily for students majoring in particular disciplines. All of the colloquia, however, are centered on intensive reading, discussion in large and small groups, and careful writing. Each colloquium involves a group of approximately fifty students and two or three faculty and offers an educational experience unlike that in any other class offered at the university.

**Honors Seminars.** A number of Honors seminars are also offered each semester. They range across subjects as diverse as "Women's Issues in the Natural Sciences," "Health and Disease in History," "Wilderness Writing," and "Bioethics." The seminars are centered within a discipline, but they are intended to be accessible to students who are not majors in that discipline. Like the colloquia, the seminars require critical reading, thinking, writing, and discussion. But unlike the colloquia, the seminars are more specialized, are directed by a single professor, and are usually limited in enrollment to twenty students.

**Departmental Honors Sections.** Departments within the university offer courses intended for Honors students that are taught by their strongest faculty. Departmental Honors sections of GE courses are usually smaller than regular courses and provide greater occasion for classroom discussion and additional reading and writing under the supervision of the professor. In addition, if the department offers an Honors major, some courses in that major may be structured specifically for the Honors student. These courses would go beyond the limits of the traditional major and would stress critical and analytical thinking and writing in the form appropriate to the subject of the major.

## Honors Housing, the Honors Center, and Special Honors Activities

Students in Honors benefit most directly from their association with fellow Honors students and with Honors faculty. To encourage this interaction among students outside the classroom, special on-campus housing for Honors students (in Helaman Halls, Deseret Towers, and Heritage Halls) is available. In addition, Honors students also have a center in the Karl G. Maeser Memorial Building, which provides them with a quiet study hall, a commons room for informal meetings and discussion, an advisement center, and classrooms. An Honors computer lab is available in 1058 TMCB to students committed to graduating with University Honors.

Honors publishes the scholarly work of students in *Insight*, an intellectual journal with an all-student staff.

# Graduation with University Honors

1. Commit to graduate with University Honors.
2. Take the required Honors courses:
   a. Two Honors sections of religion courses
   b. Two semesters of Honors History of Civilization courses (201 and 202)
   c. HonP 200 (or its equivalent)
   d. Three Honors elective courses
   e. Two semesters of foreign language study (the same foreign language)
   f. Math 112 or equivalent

**Note:** Students who entered the university *before* fall 1994 should check with the Honors Advisement Office for their required course work.

3. Meet with an Honors Program representative for advisement at least once each year.
4. Before the junior year, complete and submit a "Great Works Contract" to the Honors Program (102A MSRB).
5. During the junior year, demonstrate familiarity with the "Great Works Contract" by turning in a portfolio of one-page responses to the works on it. By the junior year, it is recommended that students take two sections of HonP 214R covering works or topics not in their major. Under the direction of the several instructors of those sections, write a one-page response to each work covered. Have these responses approved by the appropriate instructors and include them in your portfolio.
6. During the junior year, submit a thesis proposal to the Honors Program (102A MSRB). Please pay special attention to the deadlines listed below so you do not run out of time. Many theses require more time than that between the deadline for proposals and the deadline for thesis submissions. For more information about your thesis proposal, see the handout "Instructions for the Thesis Proposal," which may be obtained from 102A MSRB.
7. During the junior year, turn in your portfolio, containing (1) samples of your writing from each year of your university career, (2) your responses to the works on your "Great Works Contract," and (3) a one-page description of your ongoing service at BYU. You who have served a full-time mission should include it as part of your service, but your description of your service should show that serving others was part of your life before your mission and continues after it.
8. For students committed to graduating with University Honors, submit one copy of your finished thesis to the Honors Program by the deadline below.

**Thesis Deadlines***

| | *For Graduation in:* | | |
|---|---|---|---|
| | *April* | *August* | *December* |
| Thesis proposal approved | Sep 15 | Mar 15 | May 15 |
| One copy of thesis submitted to Honors Program; portfolio submitted | Feb 1 | Jun 1 | Oct 1 |
| Thesis defense scheduled | Feb 10 | Jun 10 | Oct 10 |
| Exit interview completed | Mar 1 | Jul 1 | Nov 1 |
| Four perfect copies of thesis on bond paper submitted to Honors Program for binding | Mar 15 | Jul 15 | Nov 15 |

*These dates are deadlines, but most students will need to have their thesis proposals approved considerably before the deadline, preferably more than two semesters before defending the thesis. Thus, those graduating in April should usually have their thesis approved no later than the previous April. In general, theses require one semester for research and a second for writing, so most students should plan to begin their research during their junior year.

9. When you submit your thesis, check with the Honors Program to find out the dean or Maeser General Education professor who has been assigned to chair your thesis defense committee. For more about the thesis defense, see the

handout "The Honors Thesis Defense," available in 102A MSRB.

10. Have your advisor verify to the Honors Program that you are ready to defend your thesis by having him or her sign the "Honors Thesis Submission Form." You may not schedule your defense until your advisor verifies that you are ready to defend.
11. At least two weeks beforehand, schedule your thesis defense with the assigned examination committee chair from Honors and the other members of the examination committee. To do this, contact each committee member to decide a mutually agreeable date, time, and location for the interview. As a courtesy, you should also invite your department or program chair to attend. Schedule this interview so that it will be completed by the deadlines below. For your advisor's and referee's convenience, please try to schedule your thesis defense in your major department's conference room. If nothing else is available, telephone 378-6137 and reserve the Honors conference room (305 MSRB). Inform everyone involved to allow at least 1.5 hours for the thesis defense.
12. At least two weeks before your thesis defense, submit a copy of your finished thesis to the members of your thesis defense committee (i.e., your thesis advisor and faculty referee).
13. After the defense and by the deadline above, complete any required corrections and submit four copies of your finished thesis on bond paper for binding. Please be sure that you obtain the signatures of the advisor on all title pages before submitting the final copies for binding. It usually takes one month to have theses bound. Leave your forwarding address so we can mail you a copy of your thesis when it arrives.

## Great Works of Literature, Art, and Film

As part of their undergraduate work, Honors students are expected to complete an independent study of a number of the most important works of literature and the other arts. A reading, listening, and viewing guide provides suggestions, but alternative works may also meet the requirement subject to approval by the Honors deans.

The purpose of the "Great Works" list is to help students begin to appreciate the breadth as well as depth of true education. Completion of this requirement should give students a start on the continued reading and thinking that is part of being educated. Students should be familiar with:

1. Twenty works of literature, philosophy, social science, and science. These must include:
   a. At least one non-Western work
   b. One work by a woman
   c. One work by a member of a minority
   d. One scientific or mathematical text
   e. One social science text (such as a book about history, economics, or political science)
2. Eight works of art.
3. Eight musical works.
4. Four films (including one silent and two foreign).

"Great Works Contracts" must be approved by an Honors dean before the student's junior year. Students are expected to demonstrate familiarity with the works on their "Great Works Contract" by turning in a portfolio of one-page responses on half the works (twenty) during their junior year. More information and the "Great Works" list are available in 102A MSRB.

Many of the works will likely be studied in connection with courses, but Honors also sponsors a series of "modules" each semester. Each module is devoted to discussion and analysis of a selected work from the list. The modules are led by professors who are authorities on the subject.

The modules may be audited. However, 1 credit hour may be earned by attending three months of modules and by registering for Honors 214R, section 1 for literature and section 2 for music. (No general education credit is awarded for this course.)

## Honors Thesis/Capstone Experience

To graduate with University Honors, a student must complete an Honors thesis/capstone project. This requirement provides an opportunity for students to work closely with a faculty member on a project of their choosing in the major. The thesis/capstone project represents an independent work reflecting the highest standards of achievement for undergraduates. It must receive both departmental and Honors approval.

## Honors Student Portfolio

The portfolio represents primarily a collection of the student's best work throughout his or her tenure as an undergraduate student. However, the portfolio is not a scrapbook; it contains *samples* of the student's best writing, which may include class papers, exams, laboratory reports, musical compositions, paintings, designs of equipment, articles submitted for publication, etc. Depending on a student's major, the portfolio may contain other appropriate evidences of academic progress or achievement (e.g., artwork). When submitted for examination at the junior year exit interview, the portfolio should contain, but is not limited to:

1. A one-page outline or summary, semester by semester, of the major highlights and achievements of the student's undergraduate experience.
2. A one-page evaluation or assessment of the student's most memorable service experience while a student at BYU. Why or how was this experience formative for the student? How does the student plan to serve the larger community once he or she has left the university?
3. A collection of twenty one-page responses on the literature, art, music, and film studied.
4. A current transcript.
5. A list of three faculty members who know the student and his or her work.
6. A *representative collection* of the student's best academic work that reflects his or her educational progression throughout the undergraduate years. In this collection, some correlation with item 1 is looked for.

## Honors and Grades

Anyone may register for Honors classes, but the classes are taught at the level of the superior student. Statistics indicate that capable and diligent students do very well in Honors classes. In fact, on the average, they receive slightly higher grades in their Honors classes than in their other classes in any given semester. Honors courses are not graded on a curve. Because the classes are more demanding and fulfilling, most students are motivated to perform well.

# Honors Courses

The University Honors Program Course Guide contains a complete list of Honors courses and detailed course descriptions. It is an essential supplement to this catalog and the current class schedule. To obtain the course guide or further information about any part of the Honors Program, contact the Honors Program Office.

## 1. Writing Skills

**200. Intensive Writing.** (3:3:0)
Meets GE requirement in First-Year Writing.

**300. Advanced Writing.** (3:3:0) Prerequisite: completion of First-Year Writing requirement.
Approaches to advanced writing that differ from departmental offerings. Meets GE Advanced Writing requirement.

## 2. Arts and Sciences Core

**201. History of Civilization 1.** (3:3:0)
Colloquium or seminar in the history of civilization from antiquity to ca. A.D. 1500.

**202. History of Civilization 2.** (3:3:0) Prerequisite: HonP 201.
Colloquium or seminar in the history of civilization from ca. A.D. 1500 to the present. In conjunction with HonP. 201, meets the GE core requirement in History of Civilization.

**240. American Government and Society.** (3:3:0)
Meets AHtg. 100 GE core requirement.

**259. Physical Science.** (1–6:6:0)
Meets the PhyS. 100 GE core requirement.

**260. Biology.** (1–6:6:0)
Meets the Biol. 100 GE core requirement.

## 3. Honors Arts and Sciences Lower-Division Electives

*Honors 203–220: Arts and Letters*

**203R. Literature.** (1–6:6:0 ea.)
Seminar in literature.

**204R. Fine Arts.** (1–6:6:0 ea.)
Seminar in art, design, music, theatre, or cinema.

**205R. Philosophy.** (1–6:6:0 ea.)
Seminar in philosophy or such related areas as religious and moral thought.

**206R. Humanities.** (1–6:6:0 ea.)
Seminar in the humanities.

**207R. Language.** (1–6:6:0 ea.)
Seminar in semantics, grammar, linguistics, or history of language.

**210R. Civilization and Culture.** (1–6:6:0 ea.)
Seminar on the historical development of Western civilization and culture or non-Western civilizations and cultures.

**211R. Colloquium in Arts and Letters.** (1–6:6:0 ea.)

**218R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Arts and Letters credit.

*Honors 221–240: Social and Behavioral Sciences*

**221R. Colloquium in the Social Sciences.** (1–6:6:0 ea.)

**222R. History.** (1–6:6:0 ea.)
Seminar in history or such related areas as archaeology.

**223R. Behavioral Science.** (1–6:6:0 ea.)
Seminar in psychology, psychiatry, organizational behavior, etc.

**224R. Political Science.** (1–6:6:0 ea.)
Seminar in political science, international relations, jurisprudence, or political and economic geography.

**225R. Sociology.** (1–6:6:0 ea.)
Seminar in sociology or family science.

**226R. Anthropology.** (1–6:6:0 ea.)
Seminar in anthropology or related areas.

**227R. Economics.** (1–6:6:0 ea.)
Seminar in economics or related areas.

**228R. Education.** (1–6:6:0 ea.)
Seminar in education or related areas.

**229R. Business.** (1–6:6:0 ea.)
Seminar in business or related areas.

**230R. Civilization and Culture.** (1–6:6:0 ea.)
Seminar on the historical development of Western civilization and culture or non-Western civilizations and cultures.

**234R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**238R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Social Sciences credit.

*Honors 241–260: Natural Sciences*

**241R. Colloquium in the Sciences.** (1–6:6:0 ea.)

**242R. Mathematics.** (1–6:6:0 ea.)
Seminar in mathematics.

**243R. Physical Science, Elective.** (1–6:6:0 ea.)
Seminar in astronomy, chemistry, geology, or physics.

**244R. Biological Science, Elective.** (1–6:6:0 ea.)
Seminar in biology, botany, microbiology, or zoology.

**245R. Technology.** (1–6:6:0 ea.)
Seminar in computer science, engineering, technology, or related areas.

**246R. Statistics.** (1–6:6:0 ea.)
Seminar in statistics.

**250. Math Modeling—Toward a Personal Understanding of the World.** (3:3:0)
Developing skills in arriving at quantitative models for the world as we see it. Some math skills reviewed and some new ones introduced.

**254R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**258R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Natural Sciences credit.

## 4. Honors Arts and Sciences Upper-Division Electives

*Honors 303–320: Arts and Letters*

**303R. Literature.** (1–6:6:0 ea.)
Upper-division seminar in literature.

**304R. Fine Arts.** (1–6:6:0 ea.)
Upper-division seminar in art, design, music, theatre, or cinema.

**305R. Philosophy.** (1–6:6:0 ea.)
Upper-division seminar in philosophy or such related areas as religious and moral thought.

**306R. Humanities.** (1–6:6:0 ea.)
Upper-division seminar in the humanities.

**307R. Language.** (1–6:6:0 ea.)
Upper-division seminar in semantics, grammar, linguistics, or history of language.

**310R. Civilization and Culture.** (1–6:6:0 ea.)
Upper-division seminar on the historical development of Western civilization and culture or non-Western civilizations and cultures.

**311R. Colloquium in Arts and Letters.** (1–6:6:0 ea.)

**314R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Upper-division seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**315R. Readings in the Classics.** (1–6:6:0 ea.)
Upper-division seminar in the classics based on key literary-philosophical texts.

**318R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Arts and Letters credit.

*Honors 321–340: Social and Behavioral Sciences*

**321R. Colloquium in the Social Sciences.** (1–6:6:0 ea.)

**322R. History.** (1–6:6:0 ea.)
Upper-division seminar in history or such related areas as archaeology.

**323R. Behavioral Science.** (1–6:6:0 ea.)
Upper-division seminar in psychology, psychiatry, organizational behavior, etc.

**324R. Political Science.** (1–6:6:0 ea.)
Upper-division seminar in political science, international relations, jurisprudence, or political and economic geography.

**325R. Sociology.** (1–6:6:0 ea.)
Upper-division seminar in sociology or family science.

**326R. Anthropology.** (1–6:6:0 ea.)
Upper-division seminar in anthropology or related areas.

**327R. Economics.** (1–6:6:0 ea.)
Upper-division seminar in economics or related areas.

**328R. Education.** (1–6:6:0 ea.)
Upper-division seminar in education or related areas.

**329R. Business.** (1–6:6:0 ea.)
Upper-division seminar in business or related areas.

**330R. Civilization and Culture.** (1–6:6:0 ea.)
Upper-division seminar on the historical development of Western civilization and culture or non-Western civilizations and cultures.

**334R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Upper-division seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**338R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Social Sciences credit.

*Honors 341–360: Natural Sciences*

**341R. Colloquium in the Sciences.** (1–6:6:0 ea.)

**342R. Mathematics.** (1–6:6:0 ea.)
Upper-division seminar in mathematics.

**343R. Physical Science, Elective.** (1–6:6:0 ea.)
Upper-division seminar in astronomy, chemistry, geology, or physics.

**344R. Biological Science, Elective.** (1–6:6:0 ea.)
Upper-division seminar in biology, botany, microbiology, or zoology.

**345R. Technology.** (1–6:6:0 ea.)
Upper-division seminar in computer science, engineering, technology, or related areas.

**346R. Statistics.** (1–6:6:0 ea.)
Upper-division seminar in statistics.

**354R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Upper-division seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**358R. Epistemology.** (1–6:6:0 ea.)
Epistemology for GE Natural Sciences credit.

### Other Honors Courses

**214R. Readings in the History of Ideas.** (1–6:6:0 ea.)
Seminar in scientific, political, and philosophical thought based on texts treating the human legacy, society, science, ethical challenges, aesthetics, etc.

**499R. Honors Thesis.** (1–6:0:0 ea.)

## Departmental Honors General Education Courses

Selected departments offer designated Honors sections of introductory courses that meet particular General Education requirements as well as Honors requirements. In addition, Religious Education offers Honors sections of religion courses that meet other university requirements. Approved departmental Honors courses include:

### Languages of Learning

First-Year Writing:
Phil 105H.

Mathematics:
Math 112H, 113H.

Advanced Writing:
Engl 311H, 312H, 313H, 315H, 316H.
MCom 320H.
Phil 311H.

### Arts and Sciences

Core Requirements:
AHtg 100H.
Biol 100H.
PhyS 100H.
CLit 201H, 202H.
Engl 201H, 202H.
Hist 201H, 202H.
Hum 201H, 202H.
Phil 201H, 202H.
Phil 210H, 211H.
PlSc 201H, 202H.

Arts and Letters:
ClCv 110H.
Hum 261H, 262H.
Phil 110H, 205H, 317H, 422H.
Dance 260H.

Social and Behavioral Sciences:
Anthr 101H, 110H.
Econ 110H.
FamSc 160H.
PlSc 110H.
Psych 111H.
Soc 111H.

Natural Sciences:
Chem 111H.
Geol 101H.
Mcbio 221H.
Phscs 121H, 127H.
Zool 260H, 261H.

## University Requirements

Religious Education:
RelA 121, 122, 211, 212, 301, 304, 320, 327, 421, 422.
RelC 130, 231, 324, 325, 333, 341, 342, 351.

Students should consult the departmental listings in this catalog, the current class schedule, and the University Honors Program Course Guide for further details about these courses.

# College of Biology and Agriculture

301 WIDB, PO Box 25250, (801) 378-3963

**Dean:** Clayton S. Huber, Professor, Food Science
**Associate Dean:** Richard W. Heninger, Professor, Zoology
**Associate Dean:** William L. Park, Professor, Economics
**Assistant Dean:** Steven L. Taylor

The following departments are included within the College of Biology and Agriculture:

Agronomy and Horticulture
Animal Science
Botany and Range Science
Food Science and Nutrition
Microbiology
Zoology

Courses offered in biology give students a general understanding of the fundamental principles of plant, animal, and microbial life and their relationship to the world. Specialized courses emphasizing teaching and research are offered to majors in the several branches of biological science. In addition, preprofessional training for students interested in health professions and a strong program to train secondary-level biology teachers are both available.

Agriculture has always been one of America's basic industries. Men and women engaged in agricultural research, production, and marketing must have an understanding of new scientific and technological developments and a solid foundation in the basic sciences. Students interested in agriculture may specialize by taking a four-year major that prepares for farm and ranch management, employment in related agricultural business or government, or teaching and research.

## College Advisement Center

Audrey L. Megerian, Director (380 WIDB, PO Box 25189, [801] 378-3042)

The College of Biology and Agriculture Advisement Center is designed to help students with academic needs, assisting progress from the day of orientation through graduation as smoothly as possible. The center maintains student records, advises on General Education and university requirements, coordinates scholarships, provides academic information of all kinds, helps cut red tape, and much more. It is open from 8:00 a.m. to 5:00 p.m. weekdays.

## Health Professions Advisement Center

Don D. Bloxham, Director (380 WIDB, PO Box 25189, [801] 378-3044)

The Health Professions Advisement Center will help preprofessional students in health-related fields (medicine, dentistry, podiatry, optometry, etc.) with any academic need, give accurate counsel, and help achieve successful transition into professional schools.

School catalogs and other pertinent materials are available in this office. The advisors will help students plan preprotessional study at BYU and apply for admission to professional schools.

The Health Professions Advisement Center also serves students planning such health-related careers as the following:

biomedical engineering
dental hygiene
dentistry
health administration
medicine
optometry
osteopathic medicine
pharmacy
podiatry
physician's assistant

## Molecular Biology Programs

Students interested in preparing themselves for careers in molecular biology may do so by meeting the requirements of a molecular biology degree in any one of the six departments in the college or in the Department of Chemistry. Students are expected to meet the basic requirements of the major, including a series of courses in mathematics, physics, chemistry, basic biology, and molecular and cellular biology. See departmental sections for lists of courses that satisfy the departmental major.

## Conservation Biology

Students interested in ecology, environmental awareness, wildlife management, the preservation of endangered species, and the conservation of natural resources can major with a BS degree in conservation biology in the Departments of Botany and Range Science and Zoology. See the department of your choice for details.

## Biology Composite Teaching

A program is available for students interested in teaching biology at the secondary education level. Requirements are outlined in the Botany and Range Science, Microbiology, and Zoology sections of this catalog.

## Agribusiness Programs

Students interested in careers in agricultural production, food marketing, and related agribusiness industries can prepare for such careers by completing a production-agribusiness emphasis under a BS degree in agronomy, horticulture, animal science, or range science. These students are expected to complete departmental core courses plus the requirements for a minor in management offered by the Marriott School of Management and two agricultural economics courses offered by the Economics Department. In addition, students can prepare themselves for agribusiness careers by completing an agricultural economics emphasis under a BS degree in economics in conjunction with selected agricultural and business courses. See departmental listings for details.

## Agricultural Economics

See Department of Economics for program details.

## Ezra Taft Benson Agriculture and Food Institute

N. Paul Johnston, Director (110 B-49, PO Box 25182)

The major objective of the Benson Institute is to raise the quality of life among the people of the world through improved nutrition and enlightened agricultural practices. Emphasis is placed on teaching students who wish to work in foreign countries and on training people from those countries in agriculture and food science practices that can improve life. Research to improve agricultural practices, family nutrition, and appropriate technology is encouraged and funded.

## BYU Agriculture Station

Max V. Wallentine, Director (392 WIDB, PO Box 25252)

Teaching and research in basic and applied agriculture is accomplished at BYU Agriculture Station facilities. These include animal science, agronomy, and horticulture project areas in Provo—including the Ellsworth Meat and Livestock Center. In addition, the 793-acre BYU Laboratory Farm near Spanish Fork, Utah, and the 9,388-acre BYU Skaggs Research Ranch near Malta, Idaho, are important facilities for training students.

## M. L. Bean Life Science Museum

290 MLBM, PO Box 20200

H. Duane Smith, Director
Douglas C. Cox, Assistant Director

Exhibits and collections of biological specimens are housed in the M. L. Bean Life Science Museum.

The museum is open Monday through Friday from 10:00 a.m. to 9:00 p.m. and Saturday from 10:00 a.m. to 5:00 p.m. Exhibits include habitat studies of local as well as exotic plant and animal species and a large and valuable collection of trophies from North America, Africa, and Asia.

**Tours and Educational Programs.** The museum offers a broad range of educational opportunities for students, from specialized graduate research in the various systematic collections housed in the museum to impromptu tours for the casual visitor. Many university classes make arrangements to utilize the extensive holdings. The museum also serves the community by providing educational opportunities for elementary and secondary schools as well as civic groups. Docent volunteers conduct educational tours and help with display preparation and general museum operation.

To make arrangements for any of the various academic opportunities, please call (801) 378-5051.

**The Botanical Collection** includes herbaria of vascular plants, mosses, liverworts, lichens, algae, and fungi from many parts of the world. The vascular plant collection includes more than 10,000 species represented by more than 350,000 herbarium sheets. The collection is made up principally of plants from western North America but includes many materials from the eastern states, Europe, Mexico, and Australia. Acquisitions of plants from Alaska, Greenland, Siberia, and the Canadian Arctic have added significantly to the collections of Arctic plants. Lichens and mosses number about 45,000.

The herbarium includes more than 2,000 specimens from the Mediterranean region of Europe and from the Middle Eastern countries of Iran and Afghanistan. The fossil plant collections contain more than 10,000 specimens.

**The Zoological Collections** consist of a large series of vertebrate and invertebrate species from North America and from many foreign countries. These materials are available to teachers, advanced students, and visiting scientists.

The invertebrate collections include numerous specimens of insects and their near relatives as well as many representatives of other phyla of invertebrates obtained locally and from many distant places. Medically important arthropods such as fleas, lice, mites, and ticks are represented. Collections of special interest include marine shells and over one million insects (with emphasis on butterflies, flies, and beetles). Other invertebrate groups are also represented.

The vertebrate collections consist of thousands of fish, amphibian, reptile, bird, and mammal research specimens. In addition to the representative series of local species, the vertebrate collections include birds' eggs, South and Central American birds, and Hawaiian fishes. Staff members, graduate students, and friends of the university have contributed material from Mexico, South America, Africa, Formosa, Malaya, the South Pacific islands, and other areas throughout the world. The vertebrate collections also include big game trophy collections from Africa, India, and North America.

**The Lytle Preserve** in southwestern Utah provides a 460-acre area as a center for natural study in an interesting desert setting.

# College of Education

343 MCKB, PO Box 25093, (801) 378-3694

**Dean:** Robert S. Patterson, Professor, Educational Leadership
**Associate Dean:** Beverly R. Cutler, Associate Professor, Elementary Education
**Associate Dean:** Russell T. Osguthorpe, Professor, Instructional Science

The five departments in the College of Education are:

Educational Leadership
Educational Psychology
Elementary Education
Instructional Science
Secondary Education

The principal purposes of the College of Education are: (1) preparing teachers for public and private schools; (2) providing graduate programs for the preparation of school principals, counselors, school psychologists, curriculum supervisors, speech/language pathologists, clinical audiologists, and master teachers; (3) offering research-based graduate programs; and (4) researching educational processes and issues.

## Education Advisement Center (EAC)

LuJeanne Peters, Director (120 MCKB, PO Box 25096, [801] 378-3426)

The Education Advisement Center assists students from the beginning of the freshman year through graduation and teacher certification. Students majoring in elementary education, early childhood education, audiology, or speech/language pathology are advised concerning General Education and major requirements, student teaching and other field experiences, graduation requirements, and teacher certification procedures.

Secondary education majors in physical science or social science receive their total program advisement from the Education Advisement Center. All other secondary education majors receive certification advisement only from the EAC. The respective college advisement center in which the student is majoring advises regarding General Education and major requirements.

Students are encouraged to visit the EAC on a regular basis.

## Acceptance into Teacher Education

Acceptance into teacher education programs in the College of Education is based on a student's performance on prescribed admissions tests as well as grades earned at the university. The college seeks students who attain high educational standards and who evidence aptitude for teaching.

Students are encouraged to take ElEd 310R or ScEd 276R in their sophomore year, after which formal acceptance into professional programs in the College of Education normally occurs.

**Withdrawals.** Students who withdraw from the university or who otherwise interrupt their education (excepting spring and summer terms) must expect, on returning to the university, to meet the most recent requirements for teacher education programs.

**Transfer Students.** Students who transfer to the College of Education from a two-year college, another university, or another college within BYU must meet the requirements for acceptance set forth above.

## Preparation of Teachers

**Early Childhood Teaching.** Students who want to teach kindergarten register in the College of Family, Home, and Social Sciences. All students receive advisement from the College of Education Advisement Center. Prior application and acceptance are required to take the methods courses in the professional education sequence. Students should refer to the Family Sciences section of this catalog for programs and course listings and should plan their programs with the designated advisor in the Education Advisement Center. Dual certification with elementary education is required.

**Elementary School Teaching.** Education majors should check with their advisor in the EAC for modifications to the program. Both an accepted application and successful completion of ElEd 310R are required to begin the professional courses. These must be completed six weeks before the student wishes to begin professional courses. Applicants must demonstrate and maintain established standards for personal conduct and interpersonal skills as outlined in the program guide.

Students interested in elementary school teaching register in the College of Education. Prior application and acceptance are required to take the methods courses in the professional sequence. Courses and prerequisites are listed in the Elementary Education section of this catalog. Students majoring in elementary education should plan their programs with the designated advisor in the Education Advisement Center.

Dual certification with early childhood education is possible. Further information may be obtained from the Education Advisement Center.

**Secondary School Teaching.** Students who plan a career in secondary school teaching should register in the department of their academic major, except for physical science or social science majors, who register in the College of Education. There is no major in secondary education per se, but students must complete professional education requirements as well as an academic teaching major or composite major. Some areas require a teaching minor also. Students should begin their professional preparation (ScEd 276R) during the sophomore year to avoid problems scheduling the balance of the certification program. For course listings and prerequisites in this area, see the Department of Secondary Education section of this catalog. Students should plan their program with the designated advisor in the Education Advisement Center.

**Special Education Teaching.** The special education program will be admitting graduate applicants for fall 1996. Please contact the department for specific information.

**Audiology and Speech/Language Pathology.** This area of study prepares students to be communication specialists in schools,

hospitals, rehabilitation centers, and other agencies and in private practice. Certification and licensure in Utah and in most other states, as well as by the American Speech-Language-Hearing Association, require a master's degree. Students interested in audiology or speech/language pathology should plan their program with the designated advisor in the Education Advisement Center.

**Student Teaching.** The culminating experience for students in teacher education is a student teaching assignment in a public school classroom under the supervision of cooperating school teachers and university supervisors. The number of students accepted for student teaching depends on the number of professionally acceptable field positions available. Students must plan their programs carefully to meet requirements for student teaching.

**Internships.** Internship appointments are available through programs offered by the College of Education and may substitute for some student teaching. Internship appointments in the public schools are for a full year and carry a modest stipend. Interested students should contact the chair of the department in which they are registered.

## Application for Certification

The certification of teachers is a function of the Utah State Office of Education (USOE). Requirements for Utah certification are available in the Education Advisement Center. There are, from time to time, modifications in certification requirements. Although such modifications are not retroactive, they may still affect the uncompleted portion of a student's program.

Students who apply for Utah certification must have the recommendation of the dean of the College of Education. Students are encouraged to plan their programs with the assistance of advisors in the Education Advisement Center so that they may be assured of meeting requirements for certification.

**Certification in Other States.** Under reciprocity agreements, Utah certification is accepted in those states where such agreements are in effect. For specific information students should contact the Education Advisement Center.

# College of Engineering and Technology

270 CB, PO Box 21345, (801) 378-4326

**Dean:** Douglas M. Chabries, Professor, Electrical and Computer Engineering
**Associate Dean:** Joseph C. Free, Professor, Mechanical Engineering
**Associate Dean:** Linton G. Salmon, Associate Professor, Electrical and Computer Engineering

The College of Engineering and Technology is composed of the following six departments:

Chemical Engineering
Civil and Environmental Engineering
Electrical and Computer Engineering
Manufacturing Engineering and Engineering Technology
Mechanical Engineering
Technology Education and Construction Management

As we approach the twenty-first century, the world's expectation of its engineering and technical personnel will range from providing for interplanetary exploration and travel to solving such earthly problems as pollution, transportation, efficient energy use, new materials, and new products and manufacturing processes, as well as many other exciting and challenging needs.

The solution to man's present and future problems will require people trained as craftsmen, technicians, technologists, and engineers working together as a team. Each of the departments in the College of Engineering and Technology has a faculty with special training and advanced education, including years of work experience, which qualify them to prepare students for these technical careers. Each department also has modern, well-equipped laboratories that provide exciting and valuable hands-on experience.

It is very important that students understand the differences among the various college programs and decide on a career as early as possible. This is especially true for engineers and technologists. It is also important that students understand the differences between scientists and engineers. This helpful information can be obtained from the college advisement center.

## Professional Bachelor's Program

The Chemical, Civil and Environmental, Electrical and Computer, and Mechanical Engineering departments and the Department of Manufacturing Engineering and Engineering Technology each offer a bachelor of science degree composed of a preprofessional program and a professional program. Approximately the first two years in these departments are considered to be preprofessional, and the remaining two years constitute the professional program. Any student who is admitted to the university may select a program in any department as a possible major, and all students are encouraged to declare their intended major on first entering the university. Industrial education majors may proceed into the junior year without restriction, but engineering and technology majors may not register for upper-division departmental courses (300 level and above) until they are formally accepted into a professional program.

Students should refer to the department sections of this catalog for specific department requirements. Additional details and application forms may be obtained from the college advisement center.

## College Advisement Center (CAC)

Pamela O. Williamson, Supervisor (264 CB, PO Box 24101, [801] 378-4325)

As a center for students, the CAC provides up-to-date records and information and help with registration, graduation requirements, policies and procedures, fields of study, changes of major, and many other aspects of the college's academic life.

## College Programs

The alignment of engineering with technology and industrial education makes it possible to offer, in a single college, a broad spectrum of educational opportunities within which students can prepare for a career in our challenging technological world. This offering encompasses four-year baccalaureate degree programs; one-year master of science, master of industrial education, master of engineering management, and master of technology management programs; and a program that leads to a doctor of philosophy degree in engineering.

The bachelor's degree program in engineering is also excellent preparation for other professional careers such as law, medicine, and business.

## General Education Requirements

All students who receive a baccalaureate degree must satisfy the university's General Education requirements. Summaries of these requirements are available in the advisement center.

It is important to maintain constant progress in the major technical area because of prerequisite structure. Students are cautioned against devoting early semesters solely toward the completion of General Education requirements, thus falling behind in technical areas. Instead, follow an integrated study program of General Education and technical requirements.

## Technology Education and Construction Management

The Department of Technology Education and Construction Management provides baccalaureate programs for educating industrial arts teachers for elementary, middle, junior high, and senior high schools, as well as technical education teachers for vocational and technical schools. The department also offers four-year baccalaureate programs in construction management and physical plant administration, and master's degree programs for supervisors, coordinators, and administrators in industrial and technical education. In addition, the Department of Technology Education and Construction Management cooperates with the College of Education to offer a minor in industrial education for the doctor of education degree.

## Manufacturing Engineering and Engineering Technology

The Department of Manufacturing Engineering and Engineering Technology offers four-year baccalaureate programs in electronics engineering technology, manufacturing engineering technology, and manufacturing engineering. The engineering technology programs are accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology, Inc. (ABET) and are recognized by industry as among the best available. The manufacturing engineering program has recently applied for ABET accreditation.

## Engineering

Engineering, with a strong emphasis on mathematics and the basic sciences, has been offered at Brigham Young University since 1952. Graduates find acceptance in the best graduate schools and in top industrial organizations. Many are in key positions in leading industries or have important assignments with government agencies. With the evident need extending well into the future for those skilled in solving technological problems, an engineering degree from BYU is a valuable professional accomplishment.

Students who plan to enroll in engineering fall semester should have successfully completed the following high school courses or their equivalents:

3 units of English
4 units of mathematics, consisting of 2.5 units of algebra, 1 unit of geometry, and 0.5 unit of trigonometry. This should qualify one to begin college mathematics with analytic geometry and calculus.
1 unit of physical science (either chemistry or physics)
1 unit of drafting or mechanical drawing

Students who have not completed these requirements should plan to enter BYU *summer term*, beginning in June. If deficiencies are not too serious, they can probably be made up by fall semester.

Each of the five engineering programs (chemical, civil and environmental, electrical and computer, manufacturing, and mechanical) leads to a four-year bachelor of science degree. Each degree program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology, Inc. (ABET). Computer engineering is an option under the accredited electrical engineering degree.

To complete these programs in less total time, students can take advantage of the spring and summer terms' offerings.

## International Option

Engineering and technology graduates are finding more and more job opportunities that require them to interact with foreign countries or work with companies that have an international component. To assist the graduates to prepare for these international careers, the college offers an international option within each department.

It should be recognized that the fundamental principles of engineering and technology are universal. In addition to a department's required courses, students must take a few additional courses that are intended to provide them with the knowledge of technical issues that are global in nature and that can affect them as they work in the international arena. A description of these courses may be found in the College of Engineering and Technology Advisement Center. In addition to these courses, students are asked to concentrate in a particular international region by completing the following:

1. **Foreign language proficiency.** Although a foreign language is not required for the option, it is highly recommended.

2. **International 'live-in' experience.** An international live-in option may be satisfied by any one of a number of ways, including the following: (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience such as a foreign mission.

3. **Elective courses.** By choosing appropriate GE and religion electives from an approved list, students can focus on a particular region and/or topic and thereby enhance the knowledge gained in the required courses.

See the college advisement center or specific departments for more information.

## Professional Registration

Engineering graduates are encouraged to become registered professional engineers. Professional registration promotes the engineering profession, enhances employment opportunities, protects the public welfare, and in many instances is a requirement. State boards have set minimum standards of competence and conduct for engineers and have established a process whereby one may become registered. There are four steps in this process: graduation from an approved four-year engineering program, passing of the Fundamentals of Engineering (FE) exam, completion of four years of acceptable engineering experience, and passing of the Principles and Practice of Engineering (PE) exam. Offered twice a year, in April and October, the FE exam should be taken near the time of graduation. Application must be made through the State Board of Registration. Those who pass the PE exam attain the status of a registered professional engineer and earn the right to publicly represent themselves as an engineer. Further details on professional registration can be found in the departmental sections of this catalog and at the College of Engineering and Technology Advisement Center.

## Prearchitectural Curriculum

Because BYU does not offer an architecture degree, it is suggested that students identify an architectural school from which to receive a degree. Then, by carefully studying its program, a student can enroll in a limited number of applicable classes at BYU. Early transfer to this selected school (unless it requires a bachelor's degree for admission) will allow a minimum credit loss. A list of accredited architecture schools and additional information can be obtained in the advisement center. Interested students should talk to a faculty advisor in the construction management program within the Department of Technology Education and Construction Management.

## Cooperative Education—Work While You Learn

The value of on-the-job working experience cannot be overemphasized when obtained during the learning process. It adds materially to understanding and incentive and also assists with educational expenses. Several kinds of work experiences are available. Perhaps the simplest arrangement is technical employment during the summer. Departments and the college cooperative education office work together to help students find suitable employment. BYU also has arrangements with several companies for co-op placement, wherein students work in industry for a period of time and then return to school for a period, sometimes alternating work and learning experiences several times. Students interested in work-while-you-learn opportunities should contact their major department chair or

the cooperative education office within the College of Engineering and Technology Advisement Center.

In addition to cooperative education internships within the United States, internships in international settings are also available for students who are pursuing majors that focus on international curricula.

# College of Family, Home, and Social Sciences

990 SWKT, PO Box 25535, (801) 378-2083

**Dean:** Clayne L. Pope, Professor, Economics
**Associate Dean for Graduate Programs and Curriculum:** Paul B. Pixton, Professor, History
**Associate Dean for Research and Faculty Development:** Dennis L Thomson, Professor, Political Science

## Academic Departments and Curriculum Areas

American Heritage
Anthropology
Clothing and Textiles
David M. Kennedy Center for International Studies
(See Contents for specific areas of specialization.)
Economics
Family Sciences
Geography
History
Political Science
Psychology
Social Work
Sociology

## Research and Academic Support Areas

Camilla Eyring Kimball Chair of Home and Family Life
Center for Studies of the Family
Charles Redd Center for Western Studies and Lemuel H. Redd Jr. Chair in Western History
Comprehensive Clinic
J. Fish and Lillian F. Smith Chair of Economics
Joseph Fielding Smith Institute for Church History
Museum of Peoples and Cultures
New World Archaeological Foundation
Women's Research Institute

## College Advisement Center

Larry K. Taylor, Supervisor (2254 SFLC, PO Box 26797, [801] 378-3541)

Advisors are prepared to assist students in the selection of General Education offerings that will contribute to a broad education. Advisors also assist faculty in offering counsel for specific majors and in monitoring a student's progress toward graduation.

## Purposes

The College of Family, Home, and Social Sciences is composed of departments whose primary focus is people.

Of particular concern is the family as the basis of human society. Each of the basic disciplines represented in the college has a special contribution to make to the family. Some are concerned with helping people to be healthy, responsible, and caring; some concentrate on helping families improve the quality of life; some focus on the home as a laboratory for family enhancement; and some explore the relationship between the family and the social systems that constitute the larger society.

The instructional program of the College of Family, Home, and Social Sciences has two major emphases. One provides a broad education that helps develop an appreciation of the values that establish and strengthen modern civilization and that prepares individuals to contribute effectively as citizens. The other prepares professionals to discover truths that reveal our heritage and to provide significant services to individuals, families, and institutions.

## Degrees Offered

Bachelor's, master's, and doctoral degrees are offered in the college. See the individual department and program listings in this catalog for specific degrees offered and the requirements for each.

## Scholarships and Awards

Scholarships and awards are available to qualified students. Applications may be obtained from the Financial Aid Office (A-141 ASB, PO Box 21009).

## Women's Studies Minor

The Women's Research Institute sponsors a minor in Women's Studies. This program educates students in the findings, theory, and research methodologies fundamental to the women's studies field, and fosters critical thinking and superior scholarship. The research and study of women and their viewpoints in traditional academic disciplines creates a new framework of interpretation and scholarship for our historical and cultural traditions. Courses in the minor represent many disciplines and provide a variety of perspectives on topics relating to women's experiences.

See the Women's Research Institute section of this catalog for course requirements for this minor.

## Center for Studies of the Family

Bruce A. Chadwick, Director (922 SWKT, PO Box 25516 [801] 378-2948)

The Center for Studies of the Family is dedicated to identifying characteristics associated with strong families and the processes by which they develop. At the heart of the center's mission is a deep and abiding desire to understand families and family members and to assist them to achieve their full potential. The center understands the important link that research can and must have to families themselves. Research that illuminates the relationship between the family and other important institutions such as governments, schools, and business, as well as social contexts including households, neighborhoods, and cultures, is germane to the center's research program. Relevant information is presented through publications, conferences, symposia, seminars, and lectures.

The center helps organizations design and implement programs to aid couples and individuals in building and

sustaining stronger families. Programs are designed not only to strengthen families but also to prevent critical family problems, including family violence, child abuse and neglect, divorce, financial mismanagement, and substance abuse. In addition, public policies that strengthen families are discussed and developed.

## Museum of Peoples and Cultures

Joel C. Janetski, Director (105 ALLN, PO Box 25522)

The Museum of Peoples and Cultures is located in Allen Hall at 700 North 100 East in Provo. Museum hours are from 9:00 a.m. to 5:00 p.m. Monday through Friday. The modest exhibits focus on the prehistory of Utah, the American Southwest, Mesoamerica, Polynesia, and the Near East as well as early Mormon pioneer life. Tour arrangements can be made by calling the museum at (801) 378-6112.

**Educational and Research Opportunities.** Classes in museology designed to provide students with practical experience in collections care and management, including computer applications, are available with approval. Credit in archaeological research, both field and laboratory, is also offered with prior approval of the museum staff, who are adjunct to the Anthropology Department. Museology and archaeology course listings are found in the Anthropology section of this catalog. The museum also employs several students each semester to assist in collections work and exhibit renovation.

Research entities in the museum include the Office of Public Archaeology and the Archaeological Technical Laboratory, both of which offer part-time employment to interested and qualified students. The Office of Public Archaeology is one of the leading archaeological contracting organizations in the intermountain area, with a permanent staff of eight. The technical lab specializes in botanical and minerals analyses. The museum works closely with Anthropology Department faculty, several of whom have research offices in Allen Hall. Offices of the New World Archaeological Foundation are also in the museum.

**Anthropological Collections.** Museum collections contain prehistoric and ethnographic artifacts from various parts of the world. The bulk of holdings are from the Southwest, Mesoamerica, Polynesia, and the Great Basin, especially Utah Valley. The museum also cares for a collection of more than 20,000 black and white and color photographs that document BYU archaeological research and the artifactual materials. Information on this collection is now computer accessible for interested scholars. The museum encourages students to inquire about research possibilities using its collections.

## Joseph Fielding Smith Institute for Church History

Ronald K. Esplin, Director (127 KMB, PO Box 26831, [801] 378-4023)

The task of the Joseph Fielding Smith Institute for Church History is the scholarly study of the Latter-day Saint past. Its personnel are historians whose primary activity is writing and publishing for both a professional and a general LDS Church audience. They also teach courses in history, LDS Church history, literature, and other disciplines related to their fields of expertise, under the direction of the appropriate departments. The institute seeks to facilitate research by other scholars in LDS Church history. Limited support for research and publication in LDS Church history is available to faculty members from other departments within the university, based on an exchange of teaching and research assignments with institute faculty.

## Joseph Fielding Smith Institute Faculty

**Research Professors**

Beecher, Maureen Ursenbach (1980) BS, Brigham Young U., 1958; MA, PhD, U. of Utah, 1966, 1973.

Esplin, Ronald K. (1980) BA, U. of Utah, 1969; MA, U. of Virginia, 1970; PhD, Brigham Young U., 1981.

Jessee, Dean C. (1980) BA, MA, Brigham Young U., 1956, 1959.

Madsen, Carol Cornwall (1980) BA, BA, PhD, U. of Utah, 1957, 1977, 1985.

Walker, Ronald W. (1980) BS, MA, Brigham Young U., 1961, 1965; MS, Stanford U., 1968; PhD, U. of Utah, 1977.

**Associate Research Professors**

Hartley, William G. (1980) BA, MA, Brigham Young U., 1965, 1969.

Jensen, Richard L. (1980) BA, Utah State U., 1968; MA, Ohio State U., 1972.

**Emeritus**

Arrington, Leonard J. (1972) BA, U. of Idaho, 1939; PhD, U. of North Carolina, Chapel Hill, 1952; Honorary Doctor of Humane Letters, U. of Idaho, 1982; Honorary Docor of Humanities, Utah State U., 1982.

# College of Fine Arts and Communications

A-410 HFAC, PO Box 26401, (801) 378-2818

**Dean:** Bruce L. Christensen, Professor, Communications
**Associate Dean:** Thomas A. Griffiths, Assistant Professor, Communications
**Associate Dean:** David M. Randall, Professor, Music

The following departments are in the College of Fine Arts and Communications:

Communications
Music
Theatre and Film
Visual Arts

This college teaches students to think, to feel, to perform, and to communicate. Its purpose is to give students the knowledge and skills requisite to a higher education in fine arts and communications. It opens the doors to the world of truth and beauty for exploration by majors and nonmajors alike. It requires discipline, critical analysis, research, empathy, and integrity as the means to acquire knowledge and competency in various areas of study encompassed by the college.

The college's classroom instruction is augmented by off-campus internship programs and by on-campus laboratory exercises. In addition, student and faculty touring groups instruct and entertain Church members and friends across the globe. Journalism students who edit the *Daily Universe*, a student laboratory newspaper, are advised by faculty professionals. KBYU-TV, KBYU-FM, and the Museum of Art are also operated under the direction of the college.

Members of the faculty are competent, dedicated men and women who are concerned about the success of the young people who study in the above departments. The college also brings to campus distinguished professionals for special lectures and artistic performances. Housed in the Harris Fine Arts Center and the Brimhall Building, the college enjoys five speech and drama theatres; two concert halls; three art galleries; design, journalism, advertising, and broadcast laboratories; and multiple music practice rooms.

## College Advisement Program

Brenda Butterfield, Supervisor (D-444 HFAC, PO Box 26333, [801] 378-3537)

Students can receive registration help from three major sources:

1. This catalog outlines graduation requirements in the thirty-seven areas of emphasis encompassed in the four Communications, Music, Theatre and Film, and Visual Arts departments.
2. Assigned faculty members are available to students desiring an assessment of potential performance.
3. The college advisement center (CAC) keeps individual student records showing progress to date and courses needed to complete requirements. CAC advisors are available also for schedule-planning assistance.

## Scholarships and Awards

Scholarships, talent awards, and grants-in-aid are available to qualified students.

Applications for academic scholarships can be obtained at the Scholarship Office (A-41 ASB, PO Box 21009, [801] 378-4104). Talent awards are offered by each of the five departments within the College of Fine Arts and Communications. Applications and information about auditions for talent awards can be obtained by contacting each departmental office.

For information about graduate scholarships, fellowships, and grants-in-aid, see the 1995–96 BYU Graduate Catalog.

# College of Humanities

2054 JKHB, PO Box 26001, (801) 378-2775

**Dean:** Randall L. Jones, Professor, German
**Associate Dean:** Cheryl Brown, Associate Professor, Linguistics
**Associate Dean:** Edward A. Geary, Professor, English

## What Are the Humanities?

The humanities incorporate the study of the central expressions of human values: language, literature, philosophy, and artistic culture. But the emphasis is always on language, for language is the distinguishing mark of our humanity and the power that enables us to create a cumulative symbolic record of our experience.

A knowledge of the humanities enables students to understand the present and the future from a historical perspective that includes the most profound original works of the men and women who have helped to shape our civilizations. Students also develop skills in critical reading and interpretation, analytical thinking, and writing. These insights and skills provide a foundation for careers in many different professions and for productive and rewarding lives as educated citizens.

## Academic Departments

Asian and Near Eastern Languages
English
French and Italian
Germanic and Slavic Languages
Humanities, Classics, and Comparative Literature
Linguistics
Philosophy
Spanish and Portuguese

## Programs and Support Areas

Center for the Study of Christian Values in Literature
College Advisement Center
Collegewide graduate program in language acquisition
English Language Center
Humanities Research Center
International Cinema
David M. Kennedy Center for International Studies (in cooperation with the College of Family, Home, and Social Sciences)
Language credit by examination
Publications Center
Foreign Language Student Residence
Study Abroad
Summer Language Institute

## College Advisement Center

Mary Anne Rich, Supervisor (3078 JKHB, PO Box 26101, [801] 378-4789)

The advisement center assists students with registration; information about majors, General Education, and changing majors; application for graduation and graduation clearance; and questions about policy and procedure. Students are encouraged to take advantage of these advisement center services.

For advisement regarding specific major requirements, substitutions within a major, career options, or graduate programs, students should consult with faculty advisors within the various departments.

## Language Credit by Examination

Jerry W. Larson, Professor of Spanish; Director, Humanities Research Center (3060-A JKHB, PO Box 26094)

Any student enrolled at BYU whose native language is English may receive credit by special examination for certain foreign language courses for which he or she has acquired the equivalent skill or knowledge. However, this is possible only if no university credit has been given through AP, CLEP, or transfer of equivalent credit from another university or other institutions. Students whose native language is not English may not receive credit for their native language, but they may receive credit by special examination for courses in English offered through the TESL program of the Linguistics Department. They may also receive credit by special examination for a language other than their native language as described above.

Examinations for languages taught on the BYU campus are administered by the department concerned. Examinations for other languages are administered by the coordinator of the Foreign Language Testing Program in the Humanities Research Center.

## Center for the Study of Christian Values in Literature

Richard H. Cracroft, Professor of English, Director (3134 JKHB, PO Box 26271)

The center holds symposia, conducts various writing contests, and publishes the journal *Literature and Belief*.

## English Language Center

Glen W. Probst, Administrative Coordinator (2113-B JKHB, PO Box 26277)
C. Ray Graham, Academic Coordinator (2144 JKHB, PO Box 26217)

The English Language Center is a resident program of intensive English language training.

## Foreign Language Student Residence

Jeannie Welch, Coordinator (4012 JKHB, PO Box 26116, [801] 378-7797)

Students who desire a more in-depth language study experience and practical application of the language under the direction of faculty and native residents may apply to live in the Foreign Language Student Residence. All activities in the individual apartments in the residence are conducted in the foreign language. Inquiries should be directed to the coordinator or to

the appropriate departmental advisor for detailed information concerning opportunities for men and women in French, Russian, Italian, German, Japanese, Spanish, Chinese, Arabic, Korean, and Scandinavian languages.

## Humanities Research Center

Jerry W. Larson, Professor of Spanish, Director (3060 JKHB, PO Box 26094)

The Humanities Research Center provides technological and consulting resources to support research and teaching in the College of Humanities. Available in the center are audio, video, and microcomputer facilities in addition to optical scanning services.

## Summer Language Institute

Hans W. Kelling, Professor of Germanic and Slavic Languages, Coordinator (4088 JKHB, PO Box 26003)

During spring or summer term the College of Humanities offers an intensive program that allows total immersion in a foreign language. Students may receive from 6 to 10 credit hours, depending on the level at which one enters the program. The institute also provides housing for those participating, where the language can be applied on a practical level.

## D Credit

No D credit in major or minor courses is accepted.

# College of Nursing

593 SWKT, PO Box 25532, (801) 378-4144

**Dean:** Sandra Rogers, Associate Professor, Nursing
**Associate Dean:** Lynn C. Callister, Associate Professor, Nursing
**Associate Dean:** Elaine S. Sorenson, Associate Professor, Nursing
**Associate Dean:** Mary Williams, Associate Professor, Nursing

## College Advisement Center

Linda Stevens, Supervisor (551 SWKT, PO Box 25531)

For information regarding College of Nursing programs and admission application forms, contact the following:

Undergraduate students:
College of Nursing Advisement Center
(551 SWKT, PO Box 25531, [801] 378-4173)

Graduate students:
Denise Gibbons Davis, Graduate Secretary
(500 SWKT, PO Box 25426, [801] 378-4142)

## The Study of Nursing at Brigham Young University

The College of Nursing at Brigham Young University, established in 1952, is accredited by the National League for Nursing. The mission of the College of Nursing is to provide students with broadly based knowledge and skills necessary to become nursing professionals and informed citizens.

Baccalaureate graduates are prepared to function in generalist roles in hospital and community settings. They also have excellent preparation for entrance into graduate programs. Graduates of the MS program are prepared for a variety of advanced practice and leadership roles in the health care delivery system.

The faculty of the college are committed to creating a stimulating learning environment based on Christian principles. They maintain a broad range of research and clinical interests.

Student resources include a fully equipped learning resource center with audiovisual and computer learning aids, a physiological research laboratory, a research center, a comprehensive family nursing clinic directed by faculty, and a state-of-the-art clinical simulation laboratory. Clinical practice opportunities exist in a variety of urban and rural hospital, school, home, and community settings along the Wasatch Front. Students may gain extended experiences with specialized national and international health programs.

## Scholarships and Awards

Scholarships are available for undergraduate and graduate students. Applications for scholarships and information about additional sources of funding for study are available in the College of Nursing Advisement Center. Research assistantships and teaching assistantships are also available for graduate students.

# College of Physical and Mathematical Sciences

1147 TMCB, PO Box 24578, (801) 378-2674

**Dean:** Bill R. Hays, Professor, Computer Science
**Associate Dean:** Larry C. Christensen, Professor, Computer Science
**Associate Dean:** Nolan F. Mangelson, Professor, Chemistry and Biochemistry

The College of Physical and Mathematical Sciences consists of six departments:

Chemistry and Biochemistry
Computer Science
Geology
Mathematics
Physics and Astronomy
Statistics

Freshmen who are interested in the physical and mathematical sciences but are undecided about a specific major may register in science fundamentals core courses: Math 112 or 110; Chem 111 or 105; Phscs 121.

## College Advisement Center

Merle T. White, Supervisor (1112 TMCB, PO Box 26587, [801] 378-2313)

The advisement center provides information and help on registration, graduation requirements, policies and procedures, fields of study, changes of major, and many other aspects of the college's academic life.

## Degrees Offered

Bachelor of arts or bachelor of science degrees are offered in chemistry, computer science, geology, mathematics, physics, and statistics. No degree is offered in the physical science or science fundamentals areas.

The master of science degree is offered in chemistry, computer science, geology, mathematics, physics, and statistics. The master of arts degree is available in mathematics. The doctor of philosophy degree is offered in chemistry, computer science, mathematics, and physics.

See specific departmental sections of this catalog for baccalaureate degree requirements. Graduate programs are detailed in the 1996–97 BYU Graduate Catalog.

# College of Physical Education

212 RB, PO Box 22113, (801) 378-2645

**Dean:** Robert K. Conlee, Professor, Physical Education
**Associate Dean:** Joyce S. Harrison, Professor, Physical Education
**Associate Dean:** Jay H. Naylor, Professor, Recreation Management and Youth Leadership

The following departments and divisions are in the College of Physical Education:

Dance
Health Sciences
Intercollegiate Athletics
Physical Education
Physical Education Services
Recreation Management and Youth Leadership

The LDS Church, through its beliefs and teachings, has developed a unique reputation relative to health practices—one of active and vigorous living, leadership of youth, and wholesome use of time. Brigham Young University, in harmony with the objectives of the Church, provides its members with opportunities for both participation and active, exemplary leadership.

## College Advisement Center

205 RB, PO Box 22117, (801) 378-3638

Students are able to obtain help in planning their educational programs through the College of Physical Education Advisement Center and the respective departments.

## Goals

The College of Physical Education seeks to make three significant contributions: (1) serve students and faculty, (2) extend university programs to the public, and (3) prepare professional leaders. The college sponsors an extensive health education program, a variety of physical education activity courses, youth and recreational services, numerous intramural and extramural activities, supervised free play, and several activity clubs. High-quality intercollegiate athletic teams and dance performance groups are correlated with other programs of the college. Those majoring in one of the areas within the college find strong professional programs at both the undergraduate and graduate levels.

## Physical Education Services

Free play, intramurals, and scheduling of events and facilities are all coordinated by the Division of Physical Education Services. Students, faculty members, and staff may use the physical education facilities during the evening and on Saturdays. The college encourages participation in these fun, wholesome activities, which give both diversion and development.

380 SWKT, PO Box 25542, (801) 378-2731

**Dean:** Maren M. Mouritsen, Assistant Vice President; Associate Professor, Educational Psychology
**Associate Dean:** Tamara M. Quick
**Associate Dean:** David M. Sorenson, Professor, Psychology
**Assistant Dean:** Wayne R. Herlin, Professor, Student Development

## Open Major Advisement Center

Sue Wilkins, Supervisor (151 SWKT, PO Box 25521, [801] 378-3826)

Students who have not selected a major declare themselves as open major. Open major students should visit the Open Major Advisement Center at least once each semester to evaluate their records and their progress toward completion of the General Education requirements. The center specializes in academic advisement and major/career counseling. Many resources are also available to help students select appropriate GE classes, improve learning skills, and investigate and select a suitable major.

# J. Reuben Clark Law School

348-A JRCB, PO Box 28001, (801) 378-4274

**Dean:** H. Reese Hansen
**Associate Dean:** J. Clifton Fleming
**Associate Dean:** Constance K. Lundberg
**Associate Dean:** Scott W. Cameron
**Assistant Dean:** Kathy D. Pullins

The J. Reuben Clark Law School offers a six-semester course of graduate professional study leading to the juris doctor (JD) degree. Information about legal education, admissions standards, and related matters can be obtained from the J. Reuben Clark Law School Bulletin, which is available through the admissions office of the Law School.

To be admitted to the Law School, an applicant must be a college graduate who has excelled academically and has scored in the upper range of the nationally administered Law School Admission Test. In addition, applicants must meet the general university admission requirements, including the personal standards required of all students.

Apply for admission on forms provided by the Law School, and file before February 15 preceding the fall of expected enrollment in the Law School. Enrollment takes place only in the fall of each year.

For more information regarding prelegal education, consult the section of this catalog entitled Preprofessional Programs (Law).

# J. Willard and Alice S. Marriott School of Management

730 TNRB, PO Box 23113, (801) 378-4121

**Dean:** K. Fred Skousen, Professor, Accounting
**Associate Dean:** Kim S. Cameron, Professor, Organizational Behavior
**Associate Dean:** Gary C. Cornia, Professor, Public Management

## Academic Departments

School of Accountancy and Information Systems
Institute of Business Management
Management Communication
Managerial Economics
Institute of Public Management
Organizational Behavior
Aerospace Studies (Air Force ROTC)
Military Science (Army ROTC)

## Management Advisement Center

Eldon Bott, Supervisor (460 TNRB, PO Box 23185, [801] 378-4285)

Advisors are prepared to assist undergraduate students in successfully completing university, college, and major requirements. Students are encouraged to meet frequently with them. The center provides up-to-date records and information, and center personnel are available to help with registration, graduation requirements, fields of study, changes in major, and transfer evaluation and to clarify policies and procedures.

## Graduate Programs

See the Marriott School of Management Graduate Bulletin, available from the Marriott School of Management, 730 TNRB, PO Box 23113, Brigham Young University, Provo, UT 84602. Summary information is also included in the 1995–96 BYU Graduate Catalog.

## Undergraduate Programs

Two undergraduate degrees are offered by the Marriott School of Management. The first is a bachelor's degree in management, which provides a broad management education. The program is designed to assist students in acquiring knowledge, insight, maturity, competence, and a strong sense of moral and ethical character. An area of emphasis may be taken by students seeking limited specialization.

The second bachelor's degree is offered by the School of Accountancy and Information Systems to students seeking to combine accounting skills with broad management education (see the School of Accountancy and Information Systems section of this catalog for details). Accounting students interested in acquiring in-depth specialization or seeking careers in public accounting are encouraged to apply to the Master of Accountancy Program.

## Graduation Application For Bachelor's Degree

When a student has completed 86–96 earned hours (usually during the junior year), application for graduation should be initiated at the Marriott School of Management Advisement Center.

# Graduate Studies

B-356 ASB, PO Box 21341, (801) 378-4091

**Dean:** Addie Fuhriman, Professor, Psychology
**Associate Director, Graduate Services:** Christine Tolman

For information about master's and doctoral programs, students should consult the 1996–97 BYU Graduate Catalog, which may be obtained through BYU Mail Services (296 UPB, PO Box 21913) or, for those who visit the campus, the BYU Bookstore.

Application information is available through the Office of Graduate Studies and through individual departments. Applicants are invited to direct questions regarding admission to the Law School and the Marriott School of Management to 340 JRCB, PO Box 28001, and 730 TNRB, PO Box 23185, respectively.

# School of Accountancy and Information Systems (SOAIS)

W. Steve Albrecht, Director
540 TNRB, PO Box 23095, (801) 378-4234

Kevin D. Stocks, Associate Director
560 TNRB, PO Box 23071, (801) 378-4613

Marriott School of Management Advisement Center
460 TNRB, PO Box 23185, (801) 378-4285

## Admission to Degree Program

The degree programs in this department carry special enrollment limitations. Please see the Marriott School of Management Advisement Center for specific details.

## The Discipline

Accounting has been called the language of business. A good understanding of accounting principles and practices can serve as the basis for a career in any business field. Accountants provide critical input and guidance in profit-seeking organizations, service and charitable organizations, educational institutions, government, public accounting firms, and, indeed, in any organization that exists today.

## Career Opportunities

Accounting graduates work in public accounting firms, private industry, government agencies, and retailing.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one course) | 3.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Accounting

For help or information on the undergraduate programs, please see the MSM Advisement Center.

For information on management degrees, see Management section of this catalog.

## Graduate Programs and Degrees

MAcc Master of Accountancy

For more information see the current Marriott School of Management Catalog and the 1996–97 BYU Graduate Catalog.

## General Information

#### Program Acceptance Requirements

Acceptance into the SOAIS is limited to fall semester only, with three application deadlines: October 30, February 28, and June 30. Application forms and further information are available at the MSM Advisement Center. Acceptance is competitive, with a maximum of 240 students admitted each year. Not all students who meet minimum admission requirements are guaranteed entry.

The following admission requirements apply:

1. Have concurrent or prior admission to the MSM.

2. Earn B grades (minimum) in Acc 200 and 210; or 201 and 202; and have a 3.0 minimum average GPA in the following four classes: Econ 110, Stat 222, MCom 320, Acc 341.
3. Pass the qualifying examination in principles of financial and managerial accounting. Examinations are waived for students who have completed Acc 200 and 210 at BYU or another four-year, AACSB-accredited university with B grade or better. Acc 200 must be taken within twenty-four months and Acc 210 within eighteen months before the entry date.

**Note 1:** If a student must leave the program for a mission, internship, or other reason, a leave of absence petition is required. A prompt return to the program is required. Students who have interrupted their SOAIS education for more than two years or without prior approval will be required to meet the requirements of the program in effect at readmission.

**Note 2:** Upper-division accounting class credits earned prior to five years before graduation may not be used to meet specific graduation requirements for the BS degree. This policy does not affect the recognition of those hours earned to satisfy total university credit.

**BS Accounting, Concurrent with MAcc**

The first year of the SOAIS program must be completed with a minimum 3.0 GPA to be eligible to apply for continuation into the Master of Accountancy Program. The undergraduate fourth year (Accounting Core 2) is replaced by the MSM graduate core. Students planning to pursue a Master of Accountancy degree should not take the Accounting Core 2 classes.

## BS Accounting (73 hours*)

**Major Requirements**

1. No more than one D grade will be allowed in MSM upper-division courses.
2. No more than 12 semester hours of upper-division transfer credit will be accepted toward the major and only 6 hours beyond Management Core 1.
3. Students are encouraged to enroll in courses outside the MSM. Only 45 upper-division MSM hours count toward graduation. (In some cases, 48 hours are allowed. Check with the MSM Advisement Center.)
4. Pass a computer proficiency examination. Students may demonstrate word processing and spreadsheet skills with either a passing grade in an equivalent transfer course, a passing grade on a challenge exam, or a B grade in MCom 98 and ISys 98. Both of these are noncredit courses.
5. Complete the following premanagement core courses:
   Math 119 or equivalent.
   Econ 110.
   Stat 222.
   Acc 200.

   **Note:** The premanagement core must be completed with at least a 2.85 GPA (no grade lower than a C–), with no more than one repeat for each class, for MSM admission. However, Econ 110, Stat 222, MCom 320, and Acc 341 must have a 3.0 minimum average for SOAIS admission.
6. Complete the following preaccounting core courses:
   Acc 210, 341.
   MCom 320.
7. Be accepted into the program.
8. Complete the following Accounting Core 1 courses:
   PMgt 385.
   BusM 101, 102, 103, 104.
   **And** select one course from the following:
   ManEc 300, 476.
   **And** select one course from the following:
   ManEc 301, 453, 458.
9. Complete the following accounting major courses:
   Acc 401, 402, 403, 404.
10. Complete the following Accounting Core 2 courses:
    MCom 321.
    OrgB 321.
    BusM 341, 361, 401.
11. Complete the following:
    BusM 499.

*Hours include courses that may fulfill GE or university requirements.

## Accounting (Acc)

### Undergraduate Courses

**Note:** Students enrolled in nonbusiness programs requiring or recommending Acc 201 or 202 should enroll in 200.

**200. Principles of Accounting.** (3:3:0) Independent Study also.
Financial and managerial accounting principles. Basic accounting statements, processes, and management applications. Open to all students.

**201. Principles of Financial Accounting.** (3:3:1) Independent Study only.
First course in concepts and methods underlying financial statements.

**202. Principles of Managerial Accounting.** (3:3:1) Prerequisite: Acc 201. For transfer students only.
Second course in the elementary series covering managerial problems and control of business operations.

**210. Principles of Accounting 2.** (3:3:0) Prerequisite: Acc 200.
Additional issues in financial and managerial accounting. Review of issues related to balance sheet accounts, performance evaluation and capital budgeting. For MSM students only.

**Note:** SOAIS 300-level classes are available to MSM and certain other selected majors.

**320. Introductory Income Tax.** (3:3:0) Prerequisite: Acc 200.
Measurement and concepts of taxable income. For nonaccounting majors.

**341. Business Law in the Environment.** (2:2:0)
Introduction to legal principles and institutions affecting business.

**343. Business Law.** (3:3:0) Prerequisite: Acc 341 or equivalent.
The law relating to negotiable instruments, secured transactions, real property, wills and trusts, and bankruptcy.

**Note:** All 400-level classes are limited to SOAIS majors.

**401. Integrated Core 1.** (6:6:0) Prerequisite: admission to SOAIS.
The business environment; role of accounting information in that environment; objectives of financial, managerial, and tax accounting; role of information system.

**402. Integrated Core 2.** (6:6:0) Prerequisite: admission to SOAIS.
Detailed analysis of major activities of a business from various accounting perspectives; accumulating information to satisfy needs of variety of users.

**403. Integrated Core 3.** (6:6:0) Prerequisite: admission to SOAIS.
Continuation of Acc 402.

**404. Integrated Core 4.** (6:6:0) Prerequisite: admission to SOAIS.
Continuation of Acc 403.

## Graduate Courses

For 500- and 600-level courses, see the current Marriott School of Management Graduate Catalog and the 1996–97 BYU Graduate Catalog.

## Information Systems (ISys)

### Undergraduate Courses

**98. Microcomputer Spreadsheets Skills.** (0:0:14)
Basic computer skills, focusing on spreadsheet and database programs. No technical background necessary. Fee.

**199R. Cooperative Business Experience Internship.** (1–3:Arr.:Arr. ea.) Prerequisite: selection of information systems emphasis in MSM.
Approved on-the-job experience. Applying classroom theory and technology to actual problems; exploring career opportunities; learning role of information systems in business environment. P/F grade.

**301. Management Information Systems.** (3:3:1) Prerequisite: ISys 98, Ling 98, and declared business major.
Introduction to information systems; use of information technology to solve business problems. Hands-on use of spreadsheet, database, and telecommunications software in a business context.

**399R. Information Systems Internship.** (1–3:Arr.:Arr. ea.)
Approved on-the-job experience. Applying classroom theory and technology to actual problems; exploring career opportunities; learning role of information systems in business environment.

**440. Principles of Business Programming.** (3:3:0) Prerequisite: ISys 301 or Acc 401.
Introduction to computer programming using a structured paradigm and C++. Also Psuedocode, hierarchy charts, style, alternation, looping, modules, encapulation, records, arrays, and business processing patterns.

**443. Information Systems Analysis.** (3:3:0) Prerequisite: SOAIS core or ISys 301.
Examination of Systems Development Life Cycle (SDLC) emphasizing tools and methods of analysis and general design phases, including investigation, study, definition and systems specification/selection.

**445. Database Systems.** (3:3:0) Prerequisite: SOAIS core or ISys 301. Recommended: a course or experience in programming.
Concepts and techniques of database system development, focusing on object-oriented modeling and its implementation methods.

### 500-Level Graduate Courses (available to advanced undergraduates)

**540. Advanced Business Programming.** (3:3:0) Prerequisite: ISys 440 or equivalent programming experience.
Introduction to object-oriented programming using C++. Also classes, inheritance, polymorphism, fundamentals of COBOL, report generation, and file processing.

**544. Information Systems Design.** (3:3:0) Prerequisite: ISys 443, 445; 546 or concurrent registration.
Concepts and techniques of systems design, emphasizing systems development, systems development tools, and related topics.

**546. Fourth-Generation Programming Languages (4GLs).** (3:3:0) Prerequisite: ISys 441 or equivalent programming experience.
Building applications (menus, forms, reports) utilizing tools and program language of Database Management Systems (DBMS); theoretical foundations, Structured Query Language (SQL).

**548. Data Communications.** (3:2:1) F, W, Su Prerequisite: SOAIS core or ISys 301.
Principles of data communications, local- and wide-area networks, hardware, software, media, standards, application, implementation, management.

**580. Information Systems Tools and Applications.** (3:3:0) Prerequisite: ISys 301 or equivalent.
Applying information systems tools and applications to business situations. Tools commonly covered include operating systems, databases, presentation software, spreadsheets, E-mail, and Internet.

**590R. Seminar in Information Systems.** (1–3:Arr.:Arr. ea.)
Subject matter varies with needs of students and with instructor. Subjects most often taught include operating systems, export systems, and software applications.

### Graduate Courses

For 600-level courses, see the current Marriott School of Management Graduate Catalog and the 1996–97 BYU Graduate Catalog.

## School of Accountancy and Information Systems Faculty

**Professors**

Albrecht, W. Steve (1977) BS, Brigham Young U., 1971; MBA, PhD, U. of Wisconsin, 1973, 1975.
Cameron, James B. (1969) BS, U. of Utah, 1956; MBA, U. of California, Los Angeles, 1958; CPA, 1960; PhD, Montana State U., 1967.
Cherrington, Jay Owen (1978) BS, Brigham Young U., 1968; MBA, PhD, U. of Minnesota, Minneapolis, 1971, 1972.
Gardner, Robert L. (1978) BA, Brigham Young U., 1969; MBA, BS, U. of Utah, 1975, 1976; PhD, U. of Texas, Austin, 1979.
Hansen, James V. (1982) BS, MS, Brigham Young U., 1963, 1966; PhD, U. of Washington, 1973.
Hardy, John W. (1969) BS, Brigham Young U., 1964; MBA, Indiana U., 1966; PhD, U. of Texas, Austin, 1972; CPA
McKell, Lynn J. (1974) BS, Brigham Young U., 1968; MSEE, MS, MS, PhD, Purdue U., 1970, 1972, 1973, 1973.
Radebaugh, Lee Howard (1980) BS, Brigham Young U., 1968; MBA, DBA, Indiana U., Bloomington, 1973.
Randall, Boyd C. (1974) BS, JD, MBA, U. of Utah, 1965, 1967, 1968; PhD, U. of Minnesota, 1972.
Romney, Marshall B. (1977) BS, MAcc, Brigham Young U., 1971, 1972; PhD, U. of Texas, Austin, 1977.
Skousen, K. Fred, Dean (1970) BS, Brigham Young U., 1965; MAS., PhD, U. of Illinois, 1966, 1968; CPA, 1968.
Stewart, Dave Nelson (1980) BA, MAcc, Brigham Young U., 1977, 1977; PhD, U. of Florida, 1980.
Stocks, Kevin D. (1983) BS, MAcc, Brigham Young U., 1978, 1978; PhD, Oklahoma State U., 1981; CPA, 1980.
Streuling, G. Fred (1976) BA, MAcc, Brigham Young U., 1963, 1964; PhD, U. of Iowa, 1971; CPA, Utah, 1965; CPA, California, 1966.
Woodfield, Leon W. (1960) BS, MBA, U. of Utah, 1956, 1957; CPA, CPA, 1959, 1960; DBA, Michigan State U., 1965.

**Associate Professors**

Boyer, Glen L. (1967) BS, Utah State U., 1963; MS, PhD, U. of North Dakota, 1966, 1972.
Dalebout, Richard S. (1975) BA, Brigham Young U., 1968; JD, U. of Utah, 1971.

Hansen, Gary W. (1983) BS, MS, Brigham Young U., 1967, 1968; PhD, Indiana U., 1974.
Howe, Keith R. (1979) BS, MBA, U. of Utah, 1972, 1976; DBA, Arizona State U., 1979.
Meservy, Raymond D. (1989) BS, MAcc, Brigham Young U., 1977, 1977; PhD, U. of Minnesota, 1985.
Stice, James D. (1988) BS, MAcc, Brigham Young U., 1984, 1984; PhD, U. of Washington, 1988.

**Assistant Professors**

Cottrell, David M. (1992) BS, MAcc, MHA, Brigham Young U., 1984, 1984, 1985; PhD, Ohio State U., 1992.
Denna, Eric L. (1988) BS, MAcc, Brigham Young U., 1984, 1984; PhD, Michigan State U., 1989.
Glover, Steven M. (1994) BA, PhD, U. of Washington, 1987, 1994.
Jackson, Robert B. (1988) BS, MS, MBA, Brigham Young U., 1968, 1970, 1972.
Liddle, Stephen W. (1995) BS, PhD, Brigham Young U., 1989, 1995.
Palmer, Glen O. (1964) BS, MAcc, Brigham Young U., 1961, 1963; CPA, 1963.
Peterson, Fredric G. (1973) BA, MA, PhD, U. of Utah, 1964, 1966, 1973.
Prawitt, Douglas F. (1993) BS, MAcc, Brigham Young U., 1988, 1988; PhD, U. of Arizona, 1993.
Spilker, Brian C. (1993) BS, MAcc, Brigham Young U., 1987, 1987; PhD, U. of Texas, Austin, 1993.
Swain, Monte R. (1991) BS, MAcc, Brigham Young U., 1987, 1987; PhD, Michigan State U., 1991.
Worsham, Ronald G. (1994) BS, MAcc, Brigham Young U., 1985, 1985; PhD, U. of Florida, 1994.

**Instructors**

Livingstone, Donald H. (1995) BS, Brigham Young U., 1966.
Nemrow, Norman R. (1993) BS, MAcc, Brigham Young U., 1978, 1979.

**Emeriti**

Bentley, Joseph T. (1953) BS, MS, Brigham Young U., 1928, 1954; CPA, 1946.
Carlson, Gary (1986) BS, MS, PhD, U. of California, Los Angeles, 1956, 1958, 1962.
De Lassen, Jan (1981) BS, Texas A&M U., 1959.
Garrison, Ray H. (1966) BS, MS, Brigham Young U., 1960, 1961; CPA, 1962; DBA, Indiana U., Bloomington, 1966.
Hubbard, Ernest Dee (1959) BS, Utah State U., 1952; MBA, U. of Utah, 1959; PhD, U. of Washington, 1967.
Johnson, Eldred A. (1955) BA, MA, Brigham Young U., 1949, 1950, CPA, 1952; PhD, U. of Utah, 1968.
McAllister, LeRay L. (1963) BA, Brigham Young U., 1957; MS, DBA, Arizona State U., 1960, 1971; CPA, 1962.
Orton, Bryce B. (1961) BS, Brigham Young U., 1951; MBA, U. of Oregon, 1957; PhD, U. of Washington, 1962.
Skousen, Karl M. (1958) BS, MS, Brigham Young U., 1944, 1957; CPA, 1957; PhD, Michigan State U., 1962.
Smith, Harold T. (1963) BA, MA, Colorado State Coll., 1958, 1959; EdD, Brigham Young U., 1967.
Smith, Jay M. (1971) BS, MS, Brigham Young U., 1953, 1960; PhD, Stanford U., 1965; CPA, 1958.
Smith, Robert J., (1949) BS, Brigham Young U., 1948; MBA, Northwestern U., 1949; CPA, Illinois, 1949; CPA, Utah, 1950; DBA, Indiana U., 1957.
Sonderegger, Emory O. (1960) BS, MS, Brigham Young U., 1956, 1957; CPA, 1963.
Taylor, Dale H. (1963) BA, MA, Brigham Young U., 1951, 1953; CPA, 1955; PhD, Northwestern U., 1963.
White, J. Morgan (1967) BS, Brigham Young U., 1951; CPA, 1953; MS, Brigham Young U., 1958.

# Aerospace Studies (Air Force ROTC)

Colonel Maurice L. Stocks, Chair
380 ROTC, PO Box 23012, (801) 378-2671

## Admission to Program

Students must be accepted by the department into the program.

## The Discipline

The Air Force Reserve Officer Training Corps (AFROTC) is an educational program designed to provide students the opportunity to become Air Force officers while completing requirements for an undergraduate or graduate degree. Four-year, three-year, or two-year programs are available for both men and women.

## Career Opportunities

Officer in the United States Air Force.

## General Information

**Textbooks, Uniforms, and Allowance.** All textbooks, uniforms, and uniform accessories are furnished by the Air Force, in addition to the tax-free allowance of $150 per month (about $3,000 for two years) furnished to those in the Professional Officer Course (POC) program.

**Air Force ROTC Scholarship Program.** Full tuition assistance is available to students in the two-year, three-year, or four-year program based on merit. By law, scholarship recipients must be under age twenty-five as of June 30 of the calendar year during which commissioning is scheduled. Applicants with prior military service can have the age limit extended one year for each year of service, up to a maximum of four years. The scholarship includes tuition, fees, textbook allowance, and $150 per month. Contact the department for application procedures.

**Field Training.** All cadets wishing to enter the Professional Office Corps (last two years) must attend a field training camp during the summer prior to their junior year. This training gives an increased understanding of the Air Force mission and operation. Students receive practical experience in leadership and management while residing on an Air Force base. At field training students receive career orientation, junior officer training, aircraft and aircrew indoctrination, survival skills, physical training, and weapons experience and learn about the function of an Air Force base. Airborne training (parachute jumping instruction) is available as an extracurricular activity to selected volunteer cadets.

Medical care, housing, food, and uniforms, as well as transportation to and from the training base, are provided. Approximately $500 in pay is received for four-week training and $750 for six-week training.

**Extracurricular Activities.** Each Air Force ROTC student will be able to participate in a variety of extracurricular activities, including the *Arnold Air Society,* the *Color Guard,* and the *Honor Guard.*

**LDS Missions.** Students who desire to serve a Church mission should do so between their freshman and sophomore years. This will facilitate entrance into the advanced course. Scholarship students may have their scholarship held while they fulfill a mission as long as they do so before entering the advanced program.

**Period of Nonattendance.** Four-year program students in Air Force ROTC who are in a five-year university program are allowed a year of nonattendance after their senior AFROTC courses. Out-of-phase students and those who will be student teaching should consult with the department chair.

**Discipline.** Disciplinary training in the cadet corps is formulated and administered by the student officers. Air Force ROTC students are civilians and are not subject to military law.

**Veterans.** A veteran seeking a commission through Air Force ROTC may have part or all of the freshman and sophomore program waived. Allowances are paid in addition to G.I. Bill benefits.

**Supplemental Courses Program (SCP).** The SCP exists to enhance the career utility and officer performance of persons commissioned through AFROTC. All contract cadets must successfully complete or demonstrate proficiency in the required supplemental courses in addition to all AFROTC courses. Normally, this requirement is satisfied by completing the BYU general education requirements in mathematics and English composition. Contact the department for details.

**Physical Education Requirements for Graduation.** Students successfully completing eight semesters of AFROTC leadership laboratory satisfy physical education fitness and activity requirements as described in the graduation section of this catalog. Students successfully completing four semesters of AFROTC leadership laboratory satisfy the physical education activity requirement only.

## Program Requirements

### Four-Year Program

The more popular and preferred program is the traditional Four-Year Program. Interested freshmen register for aerospace studies in the fall term, enrolling in aerospace studies courses in the same manner as for other college courses. There is *no military obligation* for the first two years of Air Force ROTC unless on an Air Force ROTC scholarship. During this time students learn more about the Air Force and the historical development of air power. After completing the first two years, known as the General Military Course (GMC), students may *compete* for entry into the last two years, the Professional Officer Course (POC). If accepted, students will attend a four-week summer field training encampment between their sophomore and junior years before entering the POC. Cadets in the POC study leadership, management, and national defense policy while receiving a nontaxable subsistence allowance of $150 each academic month.

### Three-Year Program

Students entering the program as sophmores can "dual enroll" in both the Aeros 100 and 200 cluster simultaneously. It is not necessary to sign up for more than one lab per semester. If accepted, students will attend a four-week camp the next summer.

### Two-Year Program

The Air Force ROTC Two-Year Program is primarily available to junior college transfers, veterans, and those who did not take the first two years of Air Force ROTC. To be eligible, students must have at least two academic years remaining either at the undergraduate or graduate level or a combination of the two. If accepted, students will attend a six-week summer field training encampment. Two-year students normally apply early in their sophomore year, attend field training the next summer, and enter the program at the beginning of their junior year.

### Qualifications

1. Be a United States citizen.
2. Be a full-time student.

3. Be eighteen years of age, or seventeen years of age with parent's or legal guardian's consent.
4. Be physically qualified.
5. Be of good moral character.
6. Be in good academic standing.
7. Successfully pass the Air Force Officer Qualifying Test.
8. Have at least two academic years remaining.
9. Be interviewed and selected by a board of Air Force officers.
10. Complete a six-week field training course if a two-year cadet, a four-week course if a four-year cadet.
11. Complete all commissioning requirements as follows:
    a. Pilot or navigator candidate: Before age 26.5.
    b. Scholarship recipient: Before age 25 as of June 30 in eligible year of commissioning.
    c. Non–scholarship recipient: Before age 30.

### Required Courses

1. General Military Courses: complete the following: Aeros 100, 101, 110, 111, 200, 201, 210, 211.
2. Professional Officer Courses: complete the following: Aeros 300, 301, 310, 311, 400R, 401R, 410, 411.

**Note:** Two-year students should complete only the 300- and 400-level courses.

## Minor Aerospace Studies (14 hours)

Students desiring aerospace studies as a minor must complete the 14 hours of POC course work and the Air Force ROTC requirements, as well as qualify for a commission in the United States Air Force.

## Aerospace Studies (Aeros)

### Undergraduate Courses

**100, 101. Leadership Laboratory—Freshmen.** (0.5:0:2 ea.)
Basic fundamentals of military leadership—drill, courtesy, planning, and organizing at various levels of responsibility.

**110. The Air Force Today.** (1:1:0) Prerequisite: concurrent registration in Aeros 100.
Development, organization, and doctrine of the U.S. Air Force, emphasizing Strategic Force Requirements.

**111. Aerospace Defense, General Purpose, and Support Forces.** (1:1:0) Prerequisite: concurrent registration in Aeros 101.
U.S. Air Force Defensive Forces, General Purpose Forces, and Tactical Air Forces.

**200, 201. Leadership Laboratory—Sophomores.** (0.5:0:2 ea.)
As listed for Aeros 100/101. Increased emphasis on performance level.

**210. The Developmental Growth of Air Power.** (1:1:0)
Prerequisite: concurrent registration in Aeros 200.
Development of various concepts of air power employment, emphasizing factors that have prompted research and technological change.

**211. The Developmental Growth of Air Power.** (1:1:0)
Prerequisite: concurrent registration in Aeros 201.
Development of various concepts of air power employment, emphasizing factors that have prompted research and technological change.

**300, 301. Leadership Laboratory—Juniors.** (0.5:0:2 ea.)
As listed for Aeros 100/101. Students perform as cadet officers. Emphasis on leadership development.

**305R. Leadership Laboratory—Honor Guard.** (1:0:3 ea.)
Prerequisite: approval of instructor.
Fundamentals of military leadership and drill with the M-1 rifle; emphasizes need for response to vested authority, with opportunity to develop confidence, military bearing, and other interpersonal skills; students perform as cadet leaders.

**310. Management and Leadership.** (3:3:0)
Writing, speaking, and listening as communication skills; management concepts; responsibilities and ethics for an Air Force junior officer.

**311. Management and Leadership.** (3:3:0)
Principles of leadership, problem solving, decisions, discipline, and human relations. Emphasis on career planning as an Air Force junior officer.

**320R. Jet Pilot Introduction.** (2:2:0 ea.)

**400R, 401R. Leadership Laboratory—Seniors.** (0.5:0:2 ea.)
As listed for Aeros 100/101. Senior cadets perform in leadership positions in planning and conducting all activities of the cadet corps.

**410. National Security Forces in Contemporary America.** (3:3:0)
Military profession, civil-military interaction, and the forming of defense strategy.

**411. National Security Forces in Contemporary America.** (3:3:0)
Strategy and management of conflict and the forming and implementing of U.S. defense policy.

### Aerospace Studies Faculty

**Professor**

Stocks, Maurice L. (1994) BA, U. of North Carolina, Chapel Hill, 1969; MS, U. of Tennessee, Knoxville, 1987; National War College, 1986.

**Assistant Professors**

Brewerton, Cortney S. (1995) BA, Brigham Young U., 1984; MA, Webster U., 1994.

Clites, Willard E. (1995) BS, Brigham Young U., 1983; MS, Troy State U., 1995.

Phillips, Matthew C. (1992) BSME, Brigham Young U., 1984; MSAE, Air Force Institute of Technology, 1990.

# Afrikaans

See Germanic and Slavic Languages.

# Agronomy and Horticulture

Richard E. Terry, Chair
275 WIDB, PO Box 25183, (801) 378-2760

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

All degree programs in the Department of Agronomy and Horticulture are open enrollment.

## The Discipline

Agronomy is the science of soil and crop management. Scientific and economic principles are applied to the conservation of soil resources and the production of food and fiber for a growing population.

Horticulture is the art and science of cultivating fruits, vegetables, and ornamental plants. Scientific, economic, and artistic principles are applied to improving the aesthetic qualities of our environment as well as to producing food and fiber for consumption.

Advances are being made in manipulation of genetic materials of living organisms. Molecular biology will play a key role in developing new crops and new uses and capabilities for old crops. This area of study combines biology and agriculture in a novel and exciting way.

## Career Opportunities

**Crop and Soil Science** provides a strong science background that prepares students for employment in technical services, for consulting in agricultural and environmental industries, and for advanced degrees (MS and PhD).

**Agribusiness-Production** provides students with training and skills for employment in agribusiness management or farm and ranch management.

**Environmental Science** trains students in knowledge of soil, microbial, and plant systems to solve environmental problems. New technologies in recycling, waste management, and bioremediation are developing, and this major will prepare students for employment in these industries.

**Horticultural Science** prepares students for employment in the technical service industry, for production and management, and for advanced studies (MS and PhD).

**Agribusiness** prepares students for employment in agribusiness management. Students may also receive a minor in management from BYU's Marriott School of Management.

**Landscape and Urban Horticulture** prepares students for careers in landscape design, estate gardening, arboriculture, and nursery and golf course management. Students are also prepared for advanced studies in landscape architecture (MLA).

**Molecular Biology** opens doors for unique employment as technicians in molecular biology laboratories or for opportunities to pursue an advanced degree program leading to a career in teaching and research.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Agronomy
Emphases:
- Agribusiness-Production
- Crop and Soil Science
- Environmental Science

BS Horticulture
Emphases:
- Agribusiness
- Horticulture Science
- Landscape and Urban Horticulture

BS Molecular Biology
Emphases:
- Agronomy
- Horticulture

Minors
- Agronomy
- Horticulture

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Agronomy
MS Horticulture
MS Molecular Biology (collegewide interdisciplinary degree)

For more information see the 1996–97 BYU Graduate Catalog.

## BS Agronomy: Agribusiness-Production Emphasis

**(60–61 hours*)**

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 282, 283, 305, 361, 391, 490.
5. Select 5 hours from the following:
   AgHrt 201, 205, 214, 220, 303, 331, 347, 402, 407, 425, 433, 460, 471.
   Botny 480.
   Zool 331.
6. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
7. Select one course from the following:
   AgHrt 240.
   CS 130, 142.
8. Complete the following:
   Acc 200†.
   Chem 101, 152.
   Comms 150.
   Econ 110†, 260.
   OrgB 320†.
   Stat 222†.
9. Select one course from the following:
   Aghrt 345.
   Econ 211.
10. Complete the following:
    BusM 300†.
11. Select one course from the following:
    BusM 340†.
    Econ 210.
12. Select one course from the following:
    BusM 380R†, 381R†, 382R†.

†Select these courses for a minor in management.

*Hours include courses that may fulfill GE or university requirements.

## BS Agronomy: Crop and Soil Science Emphasis

**(60–61 hours*)**

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 282, 283, 303, 305, 331, 361, 407, 491R.
5. Select 6 hours from the following:
   AgHrt 201, 205, 214, 220, 347, 390R, 391, 402, 425, 459, 460, 471, 490.
6. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
7. Select one course from the following:
   AgHrt 240.
   CS 130, 142.
8. Complete the following:
   Chem 105, 106, 107.
   Stat 222.
9. Select 14 hours from the following:
   Biol 276.
   Botny 210, 321, 341, 342, 350, 440, 480.
   Chem 223, 351, 352, 353, 367, 481.
   Geog 101, 405.
   Geol 111, 351, 411.
   Math 112, 113.
   Mcbio 221, 222.
   Phscs 105, 106, 107, 108, 121, 122, 137.
   Zool 331.

**Recommended Courses**

Comms 150.
Econ 110.
OrgB 320.

*Hours include courses that may fulfill GE or university requirements.

## BS Agronomy: Environmental Science Emphasis (60 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 201, 214, 282, 283, 303, 407, 491R.
5. Select 15 hours from the following:
   AgHrt 100, 305, 402, 460, 490, 514.
   Botny 350, 351.
   CEEn 351, 550, 580.
   Geol 404, 435, 436.
   PlSc 535‡, 536‡.
   Range 215, 225.
6. Complete the following:
   Chem 105, 106, 107.
   Stat 222.
7. After consulting with an advisor, select 17 hours from the following:
   AgHrt 205, 240, 317, 320, 331, 390R, 471, 497R.
   Biol 130†.
   Botny 250, 440.
   Chem 223, 351, 352, 353, 367, 481.
   Econ 240.
   Geog 101, 310.
   Geol 101, 111.
   Math 112, 113, 312§, 313§.
   Mcbio 221, 222.
   Phil 205‡.
   Phscs 105, 106, 107, 108, 121, 122, 137.
   Zool 260†, 380†, 460†.

**Note:** Students planning graduate studies in **medicine, law,** or **engineering** should include, in the 17 hours selected in this category, the courses marked by † (medicine), ‡ (law), and § (engineering), respectively.

**Recommended Courses**

Comms 150.
Econ 110.
OrgB 320.

*Hours include courses that may fulfill GE or university requirements.

## BS Horticulture: Agribusiness Emphasis (60–61 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 220, 282, 283, 391, 490.
5. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
6. Select 9 hours from the following:
   AgHrt 103, 112, 201, 205, 210, 214, 305, 317, 318, 319, 320, 331, 347, 390R, 402, 425, 433, 460, 471.
   Botny 480.
   Zool 331.
7. Select one course from the following:
   AgHrt 240.
   CS 130, 142.
8. Complete the following:
   Acc 200†.
   Chem 101, 152.
   Comms 150.
   Econ 110†, 260.
   OrgB 320†.
   Stat 222†.
9. Select one course from the following:
   AgHrt 345.
   Econ 211.
10. Complete the following:
    BusM 300†.
11. Select one course from the following:
    BusM 340†.
    Econ 210.
12. Select one course from the following:
    Bus M 380R†, 381R†, 382R†.

†Select these courses for a minor in management.

*Hours include courses that may fulfill GE or university requirements.

## BS Horticulture: Horticulture Science Emphasis (60–63 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 220, 282, 283, 305, 433, 491R.
5. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
6. Select 10 hours from the following:
   AgHrt 103, 112, 201, 205, 210, 214, 312, 317, 318, 319, 320, 331, 347, 390R, 391, 402, 407, 425, 459, 460, 471, 490.
7. Select one course from the following:
   AgHrt 240.
   CS 130, 142.
8. Select one of the following options:
   **Either** Chem 101, 103, 152
   **Or** Chem 105, 106, 107.
9. Complete the following:
   Stat 222.
10. Select 18 hours from the following:
    Biol 276.
    Botny 205, 210, 321, 341, 342, 350, 440, 480.
    Chem 223, 281, 351, 352, 353, 367, 481.
    Geog 101, 331.
    Geol 101.
    Math 112, 113.
    Mcbio 221, 222.
    Phscs 105, 106, 107, 108, 121, 122, 137.
    Zool 331.

**Recommended Courses**

Comms 150.
Econ 110.
OrgB 320.

*Hours include courses that may fulfill GE or university requirements.

## BS Horticulture: Landscape and Urban Horticulture Emphasis (57–61 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 103, 210, 220, 282, 391, 399R (1 hour minimum), 402.
5. Select one course from the following:
   AgHrt 317, 320.
6. After consulting with an advisor, select 8 hours from the following:
   AgHrt 112, 201, 205, 214, 283, 305, 312, 318, 319, 331, 390R, 407, 433, 471, 490.
7. Select one course from the following:
   AgHrt 240.
   CS 130, 142.
   Ling 98.
8. Complete the following:
   Botny 205, 210.
   Chem 101.
   Comms 150.
   RMYL 493.

9. After consulting with an advisor, select 14 hours from the following:
   Acc 200.
   Botny 350, 440, 480.
   BusM 300, 381R.
   CM 155.
   MeEn 170.
   RMYL 305, 425, 483, 485.
   Stat 222.
   TecE 209.
   VADes 102.
   VAStu 100, 103, 203R.

**Recommended Courses**

Econ 110.
OrgB 320.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Agronomy Emphasis (77 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 220, 240, 282, 283, 459, 491R.
5. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
6. Complete the following:
   Chem 105, 106, 107, 351, 352, 353, 481.
   Math 112.
   Phscs 105, 106, 107, 108.
7. Complete the following:
   Biol 130.
   Botny 341, 342, 440, 485.
   Mcbio 351, 441.
8. Select one course from the following:
   Chem 586.
   Mcbio 442.

**Recommended Courses**

Math 113.
Stat 222.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Horticulture Emphasis (77 hours*)

**Major Requirements**

1. No D credit is allowed in agronomy and horticulture courses.
2. No more than 4 hours of R courses will apply toward graduation.
3. At least 10 hours of agronomy and horticulture major credit must be taken in residency at BYU.
4. Complete the following:
   AgHrt 100, 220, 240, 282, 283, 459, 491R.
5. Select 1 hour from the following:
   AgHrt 199R, 399R, 493R, 497R.
6. Complete the following:
   Chem 105, 106, 107, 351, 352, 353, 481.
   Math 112.
   Phscs 105, 106, 107, 108.
7. Complete the following:
   Biol 130.
   Botny 341, 342, 440, 485.
   Mcbio 351, 441.
8. Select one course from the following:
   Chem 586.
   Mcbio 442.

**Recommended Courses**

Math 113.
Stat 222.

*Hours include courses that may fulfill GE or university requirements.

## Minor Agronomy (17 hours)

1. Complete the following:
   AgHrt 100, 214, 282.
2. Select 8 hours of upper-division courses in crop or soil science.

**Note:** No R-suffix courses are accepted.

## Minor Horticulture (17 hours)

1. Complete the following:
   AgHrt 100, 220, 282.
2. Select 8 hours of upper-division courses in horticulture.

**Note:** No R-suffix courses are accepted.

## Agronomy and Horticulture (AgHrt)

### Undergraduate Courses

**100. Living With Plants.** (3:3:0) F, W, Sp
Physiological, morphological, and ecological characteristics of plants used for food, fiber, and aesthetic enhancement.

**103. Residential Landscape Design.** (3:3:0) W
Design and composition as applied to development of residential grounds.

**112. Floral Design.** (2:1:2) F, W, Sp
Principles of design and practical methods of arranging flowers and other plant materials for home and professional use. Fee.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su
Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**201. Environmental Agriculture Issues.** (1:1:0) W
Current issues relating to food crop production and urban agriculture.

**203. (AgHrt-AnSc-FSN) Latin American Food Production and Nutrition.** (1:Arr.:0) F
Historical and present indigenous agricultural and nutritional practices throughout Latin America; successes, failures, problems, and solutions.

**205. World Food Crops.** (3:3:0) F, W Recommended: Biol 100 or 130.
World food crops and their utilization by man; emphasizes origin, biology, ecology, production, and importance of crops as human food sources.

**210. Herbaceous Plant Materials.** (2:1:2) W
Identification and landscape use of flowers and groundcovers.

**†Economics 211. Economics of Agricultural Production.** (3:3:0)

**214. Environmental Science.** (3:3:0) W
Sources of soil, water, and air pollution, resource management, pollution control, bioremediation, nutrient cycles, and global climate changes.

**220. Plant Growth and Reproduction.** (3:2:2) W
Propagation of plants by seeds, cuttings, budding, and grafting.

**240. (AgHrt-AnSc) Computer Applications to Agriculture.** (2:2:0) F, W, Sp
Personal computer use in agriculture; emphasizes use of tools, languages, and system development.

**282. Introduction to Soil Science.** (3:3:0) F, W Prerequisite: concurrent registration in AgHrt 283 for all majors. Recommended: one semester of college chemistry and Math 100.
Physical, chemical, and microbiological properties of soils that affect plant growth and crop production.

**283. Introduction to Soil Science Laboratory.** (1:0:3) F, W Prerequisite: concurrent registration in AgHrt 282. Recommended: Chem 103, Math 100, or equivalent.
Laboratory techniques in determining soil's physical, chemical, and fertility properties.

**303. Soil Genesis and Taxonomy.** (4:2:4) F Prerequisite: AgHrt 282. Recommended: Geol 111.
Genesis and taxonomy of world soils, including field description and laboratory characterization of soil profiles. Field trips required.

**305. Soil Fertility and Plant Nutrition.** (4:3:3) W Prerequisite: AgHrt 100, 282, Chem 105 (or 101), Math 110.
Nutrient-supplying power of soils, recognition of nutrient deficiencies/toxicities, adaptation of plants to nutritional stresses, and safe use of fertilizer and soil amendments.

**312. Advanced Floral Design.** (3:2:3) Prerequisite: AgHrt 112 or instructor's consent.
Theory and principles of artistic design using plant materials. Emphasis on post-harvest physiology and the floral industry network. Fee.

**317. Urban Horticulture.** (2:2:0) W odd yr. Prerequisite: AgHrt 100.
Selection, ecology, and appraisal of plant material for the urban environment.

**318. Greenhouse Management.** (4:4:0) F Prerequisite: AgHrt 100.
Construction and management of commercial greenhouses, emphasizing production of major greenhouse crops.

**319. Turf Science.** (2:1:2) F odd yr Prerequisite: AgHrt 100.
Management of turf relative to climate, soil, and use on the golf course, park, and private areas.

**320. Urban Forestry.** (3:3:0) W even yr. Prerequisite: AgHrt 100; Botny 205.
Biology and culture of woody plants for use in urban landscapes.

**330. (AgHrt-Range) Range and Pasture Plant Ecology.** (3:3:3) W
Identification, characteristics, phenology, distribution, site adaptation, forage value, and response to management of significant range and pasture plants.

**331. Weed Science.** (3:2:3) F Recommended: AgHrt 100, 282.
Principles of weed science; ecology; economic losses; cultural, mechanical, biological, and chemical controls; herbicide characteristics and use.

**345. (AgHrt-AnSc-Range) Farm and Ranch Planning and Management.** (3:2:2) W
Planning, implementation, and control principles and procedures for managing farm and ranch businesses; accounting and business analysis, budgeting, economic principles, structure; adjusting for risk and uncertainty.

**347. (AgHrt-AnSc-Range) Agricultural Law.** (1:1:0) W
Legal matters that affect agricultural business, including torts, contracts, water, and real property.

**361. Crop Science: Production and Management.** (3:3:0) F Prerequisite: AgHrt 100, 282.
Integration of plant science, crop production, and management principles for optimum yields in cropping systems.

**390R. Special Topics in Agriculture.** (1–3:1–3:0 ea.) F, W
Various topics of importance in agriculture.

**391. Junior Seminar.** (1:1:0) F
Current information on internships and career options.

**399R. Cooperative Education.** (1–4:1–4:0 ea.) F, W, Sp, Su Prerequisite: departmental approval.
Off-campus internship.

**402. Water Conservation, Utilization, and Quality.** (3:3:0) F
Conserving water in urban and agricultural settings; use of irrigation systems, mulches, low-water-use plants, and waste water recycling; impact of water quality and water pollutants on plants.

**407. Environmental Soil Physics.** (3:3:0) W odd yr. Prerequisite: AgHrt 282, Chem 101, Math 110.
Soil physical properties, emphasizing principles that govern movement of energy, liquids, solids, and gases into and through soils. Practical applications in agricultural science, emphasizing irrigated soils.

**425. Farm and Ranch Appraisal.** (3:3:0) F
Principles and concepts of valuation and appraising as they apply to farms and ranches, including a study of the cost, sales comparison, and income approaches.

**433. Pomology and Olericulture.** (4:4:0) F Prerequisite: AgHrt 100, 220.
Fundamentals of selection, cultural practices, harvesting, storing, and marketing of fruits and vegetables in temperate zones.

**441. (AgHrt-Range) Harvested Forage Crops.** (2:2:0) F odd yr.
Principles of production, mechanical harvesting, storage, and utilization of forage crops.

**459. Plant Breeding.** (3:3:0) F odd yr. Prerequisite: Biol 276 or Botny 341.
Genetics and methods of plant breeding related to improving agronomic and horticultural crops.

**460. Sustainable Agriculture.** (3:3:0) W Recommended: AgHrt 282 or equivalent.
Agronomic and environmental principles in relation to soil and water conservation. Applying best management practices of conventional, maximum yield, and other sustainable systems.

**466. (AgHrt-Range) Rangeland Vegetation Improvement.** (3:2:3) F odd yr. Recommended: Range 330, 354.
Habitat improvement for domestic and wild animals. Plant control by mechanical equipment, herbicides, and prescribed fire. Revegetation and reclamation of disturbed lands. Field trips required.

**471. Pest Management.** (2:2:0) W Recommended: AgHrt 100.
Cultural, chemical, and biological control of pests of horticultural and field crops; emphasizes safe use of pesticides.

**490. Case Studies—Management and Environment.** (3:3:0) F, W Prerequisite: Departments of Agronomy and Horticulture, Animal Science, and Range core courses. Recommended: only for senior students in the Agribusiness and Environmental Science Emphases.
Contemporary agriculture and environmental problems using case studies dealing with industry structure, technology, global competition, cost-profit relationships, and interacting environmental issues.

**491R. Undergraduate Seminar.** (1:1:0 ea.) W
Current information in agronomy and horticulture.

**493R. Selected Agricultural Production Practices.** (1–3:Arr.:Arr. ea.) W odd yr. Prerequisite: instructor's consent.
Extended field course to acquaint students with economic and production problems and practices in important commercial agricultural areas.

**497R. Special Problems.** (1–2:2:0 ea.) F, W, Sp, Su
Seniors specializing in agronomy or horticulture conduct research on a selected problem.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501R. (AgHrt-AnSc-FSN) Village Agriculture and Nutrition in Latin America.** (1:Arr.:0 ea.) W Prerequisite: experience in Latin American and/or in issues relative to the seminar.
Problems, successes, failures, and challenges facing those who work in agricultural research, training, and development related to small-scale farmers.

**511. Soil Physics.** (3:3:0) W even yr. Prerequisite: AgHrt 282, Chem 105, Math 113. Recommended: Phscs 105 or 121.
Physical relationships of water, heat, and gases in soils; physical and chemical properties of clays. Mathematical modeling of physical properties and transport processes.

**514. Soil Microbiology.** (3:2:3) W odd yr. Prerequisite: Chem 106, 107, or equivalent.
Ecology and role of soil microorganisms in nutrient cycling, decomposition of organic matter and waste materials, and degradation of agricultural chemicals in soil.

**520. Saline and Sodic Soils.** (3:2:3) F even yr. Prerequisite: AgHrt 305, Chem 105, 106, 107, or equivalent.
Physical and chemical properties of saline and sodic soils and irrigation waters—their diagnosis, reclamation, and management for sustainable crop production.

**540. Crop Physiology.** (3:3:0) F even yr. Prerequisite: Botny 440. Recommended: AgHrt 460.
Plant-soil-climate relationships; crop management practices related to physiological processes in plants.

**550. Developmental Plant Physiology.** (3:3:0) F odd yr. Prerequisite: AgHrt 318, 320; Botny 440 or equivalent.
Developmental phenomena in higher plants, emphasizing seed physiology, plant growth regulation, and plant stress responses.

**559. (AgHrt-Botny) Advanced Plant Breeding and Biotechnology.** (3:3:0) W even yr. Prerequisite: Botny 485 or equivalent; Botny 341.
Genetics and methods of plant breeding and biotechnology related to improving agronomic and horticultural crops.

**560. Soil and Plant Analysis.** (3:2:4) W Prerequisite: AgHrt 305 or Chem 223.
Laboratory chemical analysis of soils and plant materials in soil and plant research.

**595. Agricultural Experimentation: Design and Analysis.** (2:2:0) W Prerequisite: Stat 501 or equivalent.
Planning, experimental design, and techniques of analysis in agricultural research.

**598R. Advanced Topics.** (1–2:2:0 ea.) F, W, Sp, Su Prerequisite: instructor's consent.
Advanced study of selected agricultural topics.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Agronomy and Horticulture Faculty

**Professors**
Horrocks, Rodney Dwain (1978) BS, Brigham Young U., 1962; MS, PhD, Pennsylvania State U., 1964, 1967.
Jeffery, Larry S. (1984) BS, Utah State U, 1962; PhD, North Dakota State U., 1966.
Jolley, Von Dale (1977) BS, Brigham Young U., 1970; MS, PhD, Iowa State U. of Science and Technology, 1974, 1976.
Nelson, Sheldon D. (1972) BS, Brigham Young U., 1967; PhD, U. of California, Riverside, 1971.
Robison, Laren R. (1971) BS, MS, Brigham Young U., 1958, 1959; PhD, U. of Minnesota, Minneapolis, 1962.
Terry, Richard Ellis (1980) BS, Brigham Young U., 1972; MS, PhD, Purdue U., 1974, 1976.
Williams, C. Frank (1971) BS, MS, Utah State U., 1967, 1968; PhD, Oregon State U., 1971.

**Associate Professor**
Ellsworth, D. Delos (1975) BS, Arizona State U., 1958; MS, Cornell U., 1959.

**Assistant Professors**
Allen, Phil S. (1990) BS, MS, Brigham Young U., 1983, 1985; PhD, U. of Minnesota, 1990.
Stevens, Mikel R. (1994) BS, MS, Brigham Young U., 1977, 1983; PhD, U. of Arkansas, 1993.

**Associate Research Scientist**
Webb, Bruce L. (1978) BS, MS, Brigham Young U., 1972, 1978.

**Part-Time Faculty**
Hunter, Norah T. (1983) BS, MS, Brigham Young U., 1982, 1992.

**Adjunct Professors**
Brown, Seeley, Thorup, Walker, Wallace

**Emeriti**
Allred, R. Chase (1955) BS, Brigham Young U., 1948; MS, Kansas State U., 1949; PhD, U. of Nebraska, Lincoln, 1952.
Ashton, Clarence D. (1951) BS, Brigham Young U., 1929.
Reimschussel, Ernest F. (1941) BA, MS, Brigham Young U., 1940, 1951.

## American Heritage (AHtg)

**100. American Heritage.** (3:3:0) Honors and Independent Study also.

Synthesis of American constitutional and economic principles, and patterns of historical development.

## American Sign Language

See Linguistics.

## American Studies

See Kennedy Center for International Studies, David M.

## Ancient Scripture

See Religious Education in Academic Departments, Degrees, and Courses section of this catalog.

# Animal Science

Richard N. Thwaits, Chair
375 WIDB, PO Box 25182, (801) 378-4294

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

All degree programs in the Department of Animal Science are open enrollment.

## The Discipline

**Agribusiness-Production** provides both breadth and depth in science and business for farm and ranch management and related agribusiness vocations, e.g., sales, banking institutions, state and federal government agencies, etc.

**Veterinary Technology** combines science and technology to prepare students for careers at veterinary clinics, research laboratories, etc.

**Science–Preveterinary Medicine** and **Molecular Biology** are the emphases for students needing a strong science background as they prepare for professional schools and advanced degrees.

## Career Opportunities

The various curricula in the Department of Animal Science offer specialization and employment opportunities for the following: (1) livestock management and production; (2) meat, dairy, and food processing; (3) molecular biology; (4) sales consulting and representing agricultural businesses; (5) animal health technology, assisting the veterinary practice and related fields; (6) advanced study to graduate and veterinary schools; (7) working with federal and state agencies (extension, meat grading and inspection, etc.).

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Animal Science
Emphases:
- Agribusiness-Production
- Veterinary Technology
- Science–Preveterinary Medicine

BS Molecular Biology
Minor Animal Science

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Animal Science
MS Molecular Biology (collegewide interdisciplinary degree)

For more information see the 1996–97 Graduate Catalog.

## General Information

1. Transfer students majoring in animal science must earn at least half their credits in their major field while in residence at Brigham Young University. Transfer students should see an advisor before enrolling in lower-division courses.
2. Preveterinary students will find special instructions listed in the Preprofessional Programs section of this catalog.
3. Students planning to attend a veterinary school or graduate school after completing their work at BYU may select either the science or molecular biology major. Fulfilling the required courses for these majors will usually meet the science requirements for postgraduate work. Please note, however, that each school has its own specific course requirements for admission. Students should check with their advisor for details.
4. Students who desire horsemanship skills in handling, grooming, health management, feeding, equipment, judging and selection, hauling, trail riding, breeding, training, showing, and organizing and directing horse shows may obtain a suggested course sequence from the Department of Animal Science.

## BS Animal Science: Agribusiness-Production Emphasis (67 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Only 5 hours of D credit in required supporting courses is allowed.
3. Complete the following:
   AnSc 100, 121, 122, 207, 212, 240, 307, 430, 492.
4. Complete 2 hours from the following:
   AnSc 399R.
5. Select two courses from the following:
   AnSc 310, 312, 315, 321, 325.
6. Complete the following:
   Econ 110, 210, 260.
   Acc 200.
   Stat 222.
   BusM 300, 340.
   OrgB 320.
7. Complete the following:
   Chem 101, 152, 281.
8. Select one course from the following:
   AnSc 345.
   Econ 211.
9. Select one course from the following:
   BusM 380R, 381R, 382R.

**Recommended Courses**

AgHrt 282.
AnSc 221, 347.

*Hours include courses that may fulfill GE or university requirements.

## BS Animal Science: Veterinary Technology Emphasis (68–71 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Only 5 hours of D credit in required supporting courses is allowed.
3. Complete the following:
   AnSc 100, 121, 122, 207, 212, 240, 492.
4. Select two courses from the following:
   AnSc 310, 312, 315, 321, 325.
5. Select one course from the following:
   AnSc 400, 405, 410, 415, 420, 425, 430.
6. Complete the following:
   AnSc 308.
   McBio 221, 222.
   Zool 318.
7. Complete 4 hours from the following:
   AnSc 359R.
8. Complete the following:
   Chem 101, 152, 281.
9. Complete the following:
   AnSc 250, 251, 353, 355, 356, 357, 358, 391, 480, 481.
10. Select one course from the following:
    Biol 100, 130.

*Hours include courses that may fulfill GE or university requirements.

## BS Animal Science: Science–Preveterinary Medicine Emphasis (66.5–70.5 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Only 5 hours of D credit in required supporting courses is allowed.
3. Complete the following:
   AnSc 100, 121, 122, 207, 212, 240, 291R, 492.
4. Complete the following:
   **Either** Zool 371, 372, 373
   **Or** Botny 341, 342.
5. Complete the following:
   Phscs 105, 106, 107, 108.
6. Select two courses from the following:
   AnSc 310, 312, 315, 321, 325.
7. Select one course from the following:
   AnSc 400, 405, 410, 415, 420, 425, 430.
8. Complete the following:
   Chem 105, 106, 351, 352, 353, 481.
   **Note:** Chem 107 lab is required by veterinary colleges.
9. Select one course from the following:
   AnSc 307, 308.
10. Select one course from the following:
    Stat 221, 222.
11. Complete the following:
    Mcbio 221, 222.

**Recommended Courses**

AnSc 251.
Zool 204, 318, 484.
Comms 150.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Animal Science Emphasis (71–74 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Only 5 hours of D credit in required supporting courses is allowed.
3. Complete the following:
   Phscs 105, 106, 107, 108.
   Chem 105, 106, 107, 351, 352, 353, 481.
4. Complete the following:
   Biol 130.
   Botny 341, 342.
   Mcbio 441.
5. Select 3 hours from the following:
   Mcbio 351.
6. Complete the following:
   AnSc 100, 121, 122, 207, 212, 492.

7. Select two courses from the following:
   AnSc 307, 308, 310, 312, 315, 321, 325.
8. Select one course from the following:
   AnSc 400, 405, 410, 415, 420, 425, 430.
9. Select one course from the following:
   Math 112, 119.
10. Select one course from the following:
    Chem 586.
    Mcbio 442.

**Recommended Course**

AnSc 240.

*Hours include courses that may fulfill GE or university requirements.

## Minor Animal Science (15 hours)

1. Complete the following:
   AnSc 121, 122, 207.
2. Select two classes from the following:
   AnSc 307, 308, 310, 312, 315, 321.
3. Select one class from the following:
   AnSc 325, 400, 405, 410, 415, 420, 425.

## Animal Science (AnSc)

### Undergraduate Courses

**100. Agricultural Orientation.** (1:1:0) F
Planning a successful career in agriculture: selecting curriculum, setting goals, and developing study habits and personal traits. Historical review of American agricultural education and research.

**121. Principles of Animal Production.** (3:3:0) F, W
Introduction to principles and practices of livestock and animal product industries, including small animals.

**122. Principles of Animal Production Laboratory.** (1:0:3) F, W Prerequisite: AnSc 121 or concurrent registration.
Laboratory demonstrations of principles and practices of livestock and animal product industries, including small animals. Veterinary skills emphasized.

**124. (AnSc-PE) Equitation (Horsemanship).** (0.5:0:2) F, W, Sp Prerequisite: rider weight limit of 200 lbs. or instructor's consent.
Handling, grooming, saddling, and suppling horse and rider. Western and English theory used, emphasizing the independent seat and use of aids. Fee.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: consent of cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**203. (AnSc-AgHrt-FSN) Latin American Food Production and Nutrition.** (1:Arr.:0) F
Historical and present indigenous agricultural and nutritional practices throughout Latin America; successes, failures, problems and solutions.

**207. Principles of Animal Nutrition.** (3:3:0) F
Digestive system, digestive physiology, and nutrient metabolism of animals.

**212. Comparative Animal Physiology and Anatomy.** (4:3:2) F
Structure and functions of the animal body.

**221. Livestock and Meat Evaluation and Selection.** (3:2:4) F
Live animal and carcass evaluation of beef cattle, sheep, and swine; live dairy cattle and horse judging.

**231R. Intermediate Equitation.** (1:0.5:3 ea.) F, W, Sp Prerequisite: AnSc 124.
Schooling movements; use of aids; horse show and gymkhana events. Training techniques using Western and English theory. Fee.

**240. (AnSc-AgHrt) Computer Applications to Agriculture.** (2:2:0) F, W, Sp
Personal computer use in agriculture; emphasizes use of tools, languages, and system development.

**250. Applied Office Procedures.** (1:1:0) F
Veterinary terminology, animal breed identification, client relations, and office procedures for the veterinary technician.

**251. Animal Restraint and First Aid.** (1:0:1) W
Restraint and first aid techniques for pet, laboratory, domestic, and wild animals.

**291R. Veterinary Medicine Seminar.** (0.5:1:0 ea.) W
Preview into veterinary medicine as a profession. Application procedure and preparation for veterinary school.

**307. Applied Animal Nutrition.** (3:2:2) F even yr. Prerequisite: AnSc 207.
Principles of formulating feeds.

**308. Pet and Laboratory Animal Nutrition.** (2:2:0) F odd yr. Prerequisite: AnSc 207.
Nutrition and feeding principles of dogs, cats, horses, and laboratory animals.

**310. Reproductive Physiology of Livestock.** (3:2:2) F Prerequisite: AnSc 212, Biol 100, or equivalents.
Physiology of reproduction relating to fertility in livestock and small animals.

**312. Principles of Animal Disease.** (3:3:0) W Prerequisite: AnSc 212 or equivalent.
Principles of disease in domestic animals with emphasis on organ systems affected; prevention and control measures.

**315. Genetics of Domestic Animals.** (3:3:0) W Prerequisite: Math 100 or equivalent; Biol 100 or equivalent.
Molecular genetics, gene regulation, Mendelian genetics, genes in population, livestock improvement, and systems of breeding.

**321. Growth, Composition, and Products.** (3:2:2) W Prerequisite: AnSc 207, 212.
Physiological mechanisms and principles that explain growth and composition, lactation, and fiber production in domestic animals.

**325. Principles of Meat.** (3:2:3) F, Sp
Eating quality, grades, selection, preparation, and preservation of meat. Laboratory experiences in slaughtering, retail cutting, and further processing.

**328. Meat Processing Methods.** (3:2:3) W
Science and techniques of meat preservation, including cured products; varieties of fresh, cooked, and dry sausages; jerky.

**331R. Advanced Equitation.** (1:0.5:3 ea.) F, W, Sp Prerequisite: AnSc 231R or instructor's consent.
Learning and teaching western horsemanship skills and all aspects of handling and training horses. Fee.

**345. (AnSc-AgHrt-Range) Farm and Ranch Planning and Management.** (3:2:2) W
Planning, implementation, and control principles and procedures for managing farm and ranch businesses; accounting and business analysis, budgeting, economic principles, structure; adjusting for risk and uncertainty.

**347. (AnSc-AgHrt-Range) Agricultural Law.** (1:1:0) F, Sp
Legal matters that affect agricultural business, including torts, contracts, water, and real property.

**353. Diseases of Companion and Laboratory Animals.** (2:2:0) W Prerequisite: AnSc 212, 250.
Emphasis on infectious diseases of dogs and cats, rabbit and rodent husbandry, pet herd health and care.

**355. Veterinary Diagnostic Imaging.** (2:1:3) F Prerequisite: AnSc 212, 250, 251.
Application of radiology, ultrasound, endoscopy, and electrocardiography, as it pertains to the veterinary technologist.

**356. Veterinary Pharmacology.** (2:1:3) F Prerequisite: concurrent registration in AnSc 355.
Application of the drugs commonly used in veterinary medicine with emphasis on calculating dosages, mechanisms of action, toxicity and interactions.

**357. Veterinary Anesthesiology.** (2:1:3) W Prerequisite: AnSc 356.
Application of injectables and inhalant anesthetic agents with emphasis on preanesthetic agents, monitoring the patient, regulation of controlled substances, and maintenance of equipment.

**358. Veterinary Surgical Assistance.** (2:1:3) W Prerequisite: concurrent registration in AnSc 357.
Surgical technology, operating room etiquette, instrument identification, surgical preparation and sterilization techniques for the veterinary technologist.

**359R. Veterinary Technology Preceptorship.** (1–4:0:Arr. ea.) F, W, Sp, Su
Supervised on-the-job training in a veterinary clinic.

**391. Veterinary Technology Laboratory Methods.** (3:2:2) W Prerequisite: AnSc 353, Mcbio 221, 222.
Laboratory procedures for veterinary technicians; specimen collection, handling, processing, and evaluation.

**392R. Preveterinary Preceptorship.** (1–2:0:Arr. ea.) F, W, Sp, Su
Supervised on-the-job exposure to veterinary medicine under a clinical setting, supplemented with academic assignments.

**399R. Cooperative Education.** (1–9:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: consent of cooperative education coordinator.
On-the-job experience in livestock or meat production practices, veterinary medicine, or research. On- and off-campus opportunities.

**400. Beef Production and Management Systems.** (2:1:3) F Prerequisite: core courses or instructor's consent.
Developing beef management systems.

**405. Dairy Production and Management Systems.** (3:2:3) W Prerequisite: core courses or instructor's consent.
Developing dairy management systems.

**410. Horse Production and Management Systems.** (3:2:2) W Prerequisite: AnSc 124, core courses, or instructor's consent.
Developing horse management systems.

**415. Poultry Science.** (2:2:1) F even yr. Prerequisite: core courses or instructor's consent.
Genetics, physiology, breeding, nutrition, diseases, management systems, and marketing of poultry products.

**420. Sheep and Wool Production and Management Systems.** (2:1:2) W Prerequisite: core courses or instructor's consent.
Developing sheep and wool management systems.

**425. Swine Production and Management Systems.** (2:1:3) F odd yr. Prerequisite: core courses or instructor's consent.
Developing swine management systems.

**430. Comparative Livestock Production.** (4:3:2) W Prerequisite: AnSc 207, 212.
Compares genetic selection, breeding, reproduction, nutrition, health, and products of the swine, beef, dairy, sheep and poultry industries.

**431R. Advanced Topics in Livestock and Meat Evaluation.** (1–2:0:3 ea.) F, W Prerequisite: instructor's consent.
In-depth work in livestock evaluation and selection and meat judging. Includes animal and carcass grading and participation in intercollegiate livestock and meat judging contests. Field trips required.

**432R. Dairy Cattle Evaluation and Selection.** (1–2:0:3 ea.) F, Sp Prerequisite: instructor's consent.
Evaluation and selection of cows and heifers of the five major U.S. breeds. Identification of superior sires by record analysis. Participation in intercollegiate dairy cattle judging contests. Field trips required.

**463. Artificial Insemination of Farm Animals.** (2:1:2) F Prerequisite: AnSc 310.
Advantages and disadvantages of various techniques of artificial insemination of farm animals presented, discussed, and practiced. Collecting, processing, and care of semen.

**464. Reproductive Management of Farm Animals.** (3:1:6) W Prerequisite: AnSc 310.
Application of management principles associated with artificial insemination, estrus synchronization, embryo transfer, pregnancy detection, and record management.

**480. Senior Clinics.** (3:1:6) F, Sp Prerequisite: AnSc 353, 358, 391.
Advanced techniques for the veterinary technologist with emphasis on equine, dairy, beef, sheep, swine and companion animals.

**481. Senior Preceptorship.** (3:1:6) W, Su Prerequisite: AnSc 480.
Advanced training in either a clinical setting, research facility, or diagnostic laboratory.

**491R. Advanced Topics of Animal Science.** (0.5–3:Arr.:Arr. ea.) F, W, Sp, Su on dem. Prerequisite: instructor's consent.
Advanced topics in nutrition, genetics, reproduction, animal diseases, livestock production management, laboratory animal studies, and biotechnology.

**492. Seminar.** (1:1:0) F, W
Critical examination of current literature in animal science and industry.

## 500-Level Graduate Courses (available to advanced undergraduates)

**+Statistics 501, 502. Statistics for Research Workers 1, 2.** (5:5:0 ea.)

**+Zoology 503. Research Orientation. (1:1:0)**

**+Zoology 504. Research Methodology. (1:0:3)**

**501R. (AnSc-AgHrt-FSN) Village Agriculture and Nutrition in Latin America.** (1:Arr.:0 ea.) W Prerequisite: experience in Latin America and/or in issues relative to the seminar.
Problems, successes, failures, and challenges facing those who work in agricultural research, training, and development related to small-scale farmers.

**507. Advanced Animal Nutrition.** (4:3:3) W Prerequisite: AnSc 207; Chem 152, 181.
Functions of nutrients in metabolism; methods for assessing nutrient utilization and requirements.

**510. Advanced Reproductive Physiology.** (4:4:0) F Prerequisite: AnSc 310 or equivalent.
Molecular, biochemical, and hormonal regulation of processes controlling reproduction in mammalian species.

**520. Case Studies in Animal Production.** (3:2:2)W 1st block Prerequisite: BS in animal science, with agribusiness emphasis.

Case studies that require students to solve problems in animal production dealing with nutrition, reproduction, genetics, health, and product processing.

**525. Case Studies in International Animal Production.** (3:2:2) F Prerequisite: BS in animal science, with agribusiness emphasis.

Case problems in international animal production both in villages and on large-scale farms dealing with nutrition, reproduction, genetics, health, and product processing.

**530. Management of National Animal Industries.** (2:2:0) W 1st block Prerequisite: BS in animal science, with agribusiness emphasis.

Principles of accounting, finance, marketing, and human relations incorporated with animal science principles in solving management problems in animal industries.

**535. Management of International Animal Industries.** (2:2:0) W 1st block Prerequisite: BS in animal science, with agribusiness emphasis.

Principles of accounting, finance, marketing, and human relations incorporated with animal science principles in solving management problems in international animal agriculture.

**545. Essentials for Animal Research.** (1:1:Arr.) F, Sp Prerequisite: instructor's consent.

Thorough examination of regulations for use of laboratory animals. Animal care and use relative to husbandry, blood sampling, drugs, and anesthesia.

**574. (AnSc-Botny) Introduction to Population Genetics.** (3:3:0) F Prerequisite: introductory courses in genetics and statistics.

Quantitative study of factors influencing changes in gene frequencies in natural and domestic animal and plant populations.

**591R. Selected Topics in Animal Science.** (0.5–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**595R. Special Problems in Animal Science.** (0.5–2:0:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**599R. Cooperative Education.** (2–9:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: approval from department cooperative education coordinator.

On-the-job experience in livestock or meat production practices, veterinary medicine, or research. On- or off-campus opportunities.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Animal Science Faculty

**Professors**

Johnston, N. Paul (1971) BA, Brigham Young U., 1966; MS, Oregon State U., 1967; MBA, U. of Utah, 1969; PhD, Oregon State U., 1971.

Orme, Leon E. (1969) BS, Utah State U., 1953; MS, U. of Tennessee, Knoxville, 1955; PhD, Michigan State U., 1958.

Park, Robert L. (1965) BS, Brigham Young U., 1956; MS, PhD, Cornell U., 1958, 1962.

Wallentine, Max V. (1962) BS, Utah State U., 1955; MS, PhD, Cornell U., 1956, 1960.

**Associate Professors**

Kellems, Richard O. (1986) BS, Brigham Young U., 1969; MS, PhD, Oregon State U., 1975, 1976.

Roeder, Beverly L. (1990) BA, Wittenberg U., 1978; DVM, Ohio State U., 1982; MS, Kansas State U., 1986; PhD, Pennsylvania State U., 1990.

Thwaits, Richard N. (1990) BS, New Mexico State U., 1974, DVM, Colorado State U., 1981.

**Assistant Professors**

Knowles, John E. (1993) BS, DVM, MS, Colorado State U., 1987, 1991, 1993.

Silcox, Roy W. (1992) BS, Brigham Young U., 1981; MS, PhD, North Carolina State U., 1984, 1986.

**Special Instructor**

Hawkins, Ernest W. (1976) BS, MS, Brigham Young U., 1978, 1984; PhD, U. of Wyoming, 1988.

**Adjunct Professors**

Bagley, Clark, Cole, Davis, DeGering, Moody

**Emeriti**

Gardner, Robert W. (1966) BS, Utah State U., 1958; MS, PhD, Cornell U., 1962, 1964.

Hoopes, Keith H. (1957) BS, Utah State U., 1957; DVM, Washington State U., 1956.

Pace, Ronald T. (1961) BS, MS, Brigham Young U., 1955, 1958.

Shumway, R. Phil (1949) BS, Utah State U., 1947; MS, U. of Minnesota, Minneapolis, 1949; PhD, Utah State U., 1959.

Shupe, Merrill Grant (1980) DVM, Washington State U., 1956.

# Anthropology

John P. Hawkins, Chair
945 SWKT, PO Box 25522, (801) 378-3058

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All undergraduate degree programs in the Department of Anthropology are open enrollment.

## The Discipline

Anthropology's central aims are to describe, interpret, make meaningful, and explain the similarities and differences in human behavior patterns among all peoples and cultures, both in the present and the past. Social and cultural anthropology study human society in the present, using participant-observation, interviewing, and other techniques to understand the full round of life in a single culture, a subculture, or a multicultural system. Archaeology provides methods for learning about the world's peoples who are no longer living; thus it is an important part of the anthropological family of special skills and interests.

## Career Opportunities

Distinctive contributions are made by both anthropology and archaeology majors, and therefore jobs are available wherever social and cultural differences or social system complexity create difficulties. Social services, businesses, schools, development projects, medicine, and law all offer significant careers, and recent concern with environmental protection has opened up others. University teaching and research positions are limited in growth, but highly qualified students can find positions after obtaining the PhD degree from first-rank schools.

For archaeology majors, both legal and societal interest in understanding and preserving the past have resulted in increased job opportunities in state and national agencies required to observe recent preservation laws and in private corporations serving this end.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Anthropology |
| BA | Anthropology (Sociocultural double major) |
| Minors | Anthropology |
| | Anthropology Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Anthropology

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. Each student wishing to major in anthropology should arrange through the department office to counsel with a faculty advisor and prepare a proposed sequence of study. Following this, the student should meet with the department chair for final approval of the program.
2. Undergraduate students are allowed some, but not excessive, specialization.
3. All degrees are in the field of anthropology.
4. No D credit is applicable to any degree program.

## BA Anthropology (48–52 hours*)

**Major Requirements for Archaeology Option**

1. Complete the following:
   Anthr 101, 110, 215, 300, 309.

2. Complete the following:
   Anthr 205, 305, 405.
3. Select 3 hours from the following:
   Anthr 351, 378, 385, 390R.
4. Select 3 hours from the following:
   Anthr 350, 355, 365, 372, 374, 380, 390R.
5. Select 9 hours from the following:
   Anthr 349, 430, 431, 432, 435, 436, 438, 439, 440, 490R, 515, 520, 575.
6. Complete the following:
   Anthr 454R, 455R, 456R.

**Major Requirements for Sociocultural Option**

1. Complete the following:
   Anthr 101, 110, 300, 309.
2. Complete the following:
   Anthr 205, 305, 405.
3. Select 6 hours from the following:
   Anthr 317, 326, 330, 335, 340, 343, 345, 346, 372, 374, 390R, 566, 568.
4. Select 12 hours from the following:
   Anthr 349, 430, 431, 432, 435, 436, 438, 439, 440, 490R, 515, 520, 575.
5. Select 3 additional hours from items 3 or 4 above.
6. Complete the following:
   Anthr 442, 495.

*Hours include courses that may fulfill GE or university requirements.

## BA Anthropology (Sociocultural Double Major) (33 hours*)

The 33-hour sociocultural major is designed to accommodate the varying interests of students from a range of other disciplines, but it is only available to students completing an additional major in another field. Its purpose is to allow students with other majors to add the perspectives that anthropology is uniquely qualified to provide.

**Major Requirements**

1. Complete all requirements of a primary major or the premedical or predental track. Double counting courses between primary major and anthropology will not be allowed.
2. Complete the following:
   Anthr 101, 309, 442, 495.
3. Select 9 hours from the following:
   Anthr 205, 305, 405, 505.
4. Select 6 hours from the following:
   Anthr 317, 326, 330, 340, 343, 345, 390R, 568, 585.
5. Select 6 hours from the following:
   Anthr 430, 431, 432, 436, 438, 439, 490R.

*Hours include courses that may fulfill GE or university requirements.

## Minor Anthropology (16 hours)

Complete 16 hours of department courses, with no more than two courses in addition to Anthr 108R from lower-division courses offerings.

## Minor Anthropology Teaching (16 hours*)

1. Complete the following:
   Anthr 101, 108R, 110, 300, 309.
2. Select 3 hours from the following:
   Anthr 215, 251, 252, 317, 325, 326, 327, 330, 340, 343, 345, 348, 355, 365, 370, 376, 378, 380, 430, 431, 432, 433, 436, 438, 439.

*Hours include courses that may fulfill GE or university requirements.

## Anthropology (Anthr)

### Undergraduate Courses

**101. Social/Cultural Anthropology.** (3:3:0) Honors also.
Aspects of society and culture: kinship, beliefs, economy, and political order among peoples worldwide. Methods and perspectives used in social/cultural anthropology.

**108R. Anthropological Films.** (1:0:2 ea.) F, W
Examination of other cultures through ethnographic or archaeological film. Can be taken separately or concurrently with Anthr 101 or 110.

**110. Introduction to Archaeology.** (3:3:0) Honors also.
Review of great archaeological discoveries about the ancient world. Overview of world prehistory.

**199R. Cooperative Education: Museology.** (1–3:Arr.:Arr. ea.) Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**205. Foundations of Anthropological Theory.** (3:3:0) W
Founders of social and cultural theory and their thought: Darwin, Morgan, Tylor, Boas, Marx, Weber, Durkhem, Freud, or others up to circa 1920.

**207. Experiments in Ancient Technology.** (3:1:2) F odd yr.
Processes by which tools and other objects were produced anciently; experimental reproduction and use of ancient tools.

**215. Introduction to Archaeology: Method and Theory.** (3:3:0) W
Field and analytic methods and their relevance to data acquisition; use of theory and the relation of theory to methods.

**280. Archaeology and the Scriptures.** (3:3:0) Evening Classes only.
The Bible and the Book of Mormon compared with archaeological findings on early civilizations.

**300. Biological Anthropology.** (3:3:0) W
Relationships between human biology, environment, social structure, and culture. Concepts and data on race, primates, evolution, population genetics, growth, and sociobiology.

**301. Human Osteology.** (2:1:2) F even yr.
Identification and treatment of skeletal material found in archaeological excavations.

**305. Anthropological Theory 2.** (3:3:0) F Prerequisite: Anthr 205.
Major contributions to development of anthropological theory, circa 1920–1950.

**309. Language in Culture and Society.** (3:3:0) F
Sociocultural categories and processes as expressed through, and determined by, language. Semiotics: language as sign system. Ethnosemantics, syntactic analysis, translation problems, ethnography of speaking/communication.

**312. Intercultural Communication.** (3:3:0) F, W
Communication processes as affected by proxemic, kinesic, language, social, institutional, worldview, and value differences and other aspects of culture. Seminar/workshop: theory, research methods, applications.

**317. Native Peoples of North America.** (3:3:0) F
Indian groups at the time of the European arrival; social organization, beliefs, values, economy, and adaptation to environment.

**326. Central American Society.** (3:2:Arr.) F
History, culture, society, and life among peoples of Mexico and Central America.

**330. Peoples of Africa.** (3:3:0) F and W odd yr.
Political, economic, and social organization, family life, language, worldview, religion, ritual, artistic expression, ecological adaptation, and contemporary development issues among rural and urban sub-Saharan peoples.

**335. Peoples of India.** (3:3:0) Sp
Society and culture on Indian subcontinent. Stratification, kinship, marriage, religion, politics, economics.

**340. Peoples of the Middle East.** (3:3:0) W
Ecology, social organization, beliefs, etc., of nomadic, rural, and urban groups between western Africa and Pakistan.

**343. Chinese Culture and Society.** (3:3:0) F
Cultural and social institutions of traditional and modern China, including Mainland China, Taiwan, Hong Kong, etc.

**345. American Culture.** (3:2:Arr.)
Unity and diversity in U.S. life. Social/cultural change processes illustrated and analyzed. Anthropological study of complex cultures. Seminar-type course involves substantial reading, writing, discussion.

**346. Anthropology of Mormonism.** (3:3:0) W even yr.
Intensive analysis of Mormon society and culture using a range of anthropological perspectives.

**349. Museums and Culture.** (3:3:0) W odd yr.
Museums in society. Cultural foundations of museum content and sociology of museum use. Analyzing museum studies literature with on-site visits to area museum.

**350. Archaeological Cultures of North America.** (3:3:0) W
Cultural developments of North American Indians (Canada, U.S., and northern Mexico) before Columbus.

**351. Archaeology and the Bible.** (3:3:0) F even yr.
Setting and context of the Bible as clarified and supplemented from archaeology, history, and related studies. Archaeological methods.

**355. Mesoamerican Archaeology.** (3:2:Arr.) F
Cultural-environment bases of ancient civilizations in Mexico and Central America. Olmec, Maya, Toltec, and Aztec cultures.

**365. South American Archaeology.** (3:3:0) F odd yr.
Archaeological history of South America: Peru, Bolivia, and Ecuador.

**372. Ancient Mayan Writing 1.** (3:3:0) F even yr.
Nature and content of Mayan hieroglyphic writing, from A.D. 100 to 1600. Methods of decipherment, introduction to textual analysis, and application to interpreting Mayan language, art, world view, and society. Literacy and the Mesoamerican background of Mayan script.

**374. Ancient Mayan Writing 2.** (3:3:0) W odd yr. Prerequisite: Anthr 372.
Advanced study of Mayan hieroglyphic writing. Guided workshop focusing on inscriptions, rituals, dynastic history, and linguistic records from major Mayan cities. Archaeological setting and preparation of technical commentaries emphasized.

**378. Near Eastern Archaeology.** (3:2:Arr.) W odd yr.
Peoples and culture history in Mesopotamia, Syria, Palestine, Egypt, 3500–500 B.C. Substantial reading, writing, discussion.

**380. Historical Archaeology.** (3:2:Arr.) W odd yr.
Archaeological study, excavation, and restoration of sites like Nauvoo and Williamsburg. Substantial reading, writing, and discussion.

**385. Ancient Peoples and Cultures of Europe: The Origins of European Civilization.** (3:3:0) F odd yr.
European culture and archaeology from initial settlement to Vikings. Agriculture, political organization, urban settlement, population movement, early astronomy, religious development. Bronze and Iron Ages, Roman expansion.

**390R. Special Topics in Regional Anthropology.** (3:3:0) On dem.
Subjects related to a particular area or people. Offered when unique opportunities or needs arise.

**399R. Cooperative Education: Museum Projects.** (1–6:0:6 ea.) Prerequisite: instructor's consent.
Technical and educational tasks in the Museum of Peoples and Cultures under faculty direction.

**405. Anthropological Theory 3.** (3:3:0) W Prerequisite: Anthr 205, 305.
Major contributions to development of anthropological theory, circa 1950–1980.

**420. Language and Cultural Insight.** (3:3:0) F, W
Students will demonstrate language competence and increase cultural awareness using an "uncommon language." Interview, analysis, and writing skills emphasized. Document will be in uncommon language with translation and report in English.

**430. Moral and Ritual Institutions.** (3:3:0) F even yr.
Anthropological approaches to religion; its content and relation to other social institutions in societies ranging from gatherers to industrialists.

**431. The Family, Marriage, and Kinship.** (3:3:0) W
Nature of kinship; parent-child, sibling, grandparental relationships. Genealogical basis of society: family, lineage, clan, kindred organization. Marital status; in-law relations; joking and avoidance behavior; divorce.

**432. Political and Legal Institutions.** (3:3:0) F odd yr.
Power, politics, law, the state, rebellion and revolution, warfare, hegemony, etc., in simple and complex societies as approached from social theory and anthropology.

**435. The Anthropology of Art: Images, Ideas, and Craft in the Non-Western World.** (3:3:0) W odd yr.
Comparative study of Western and non-Western traditions of beauty, artistic creation, images, myth, and ritual. Social, semiotic, and political functions of art. Colonial and modern interactions.

**436. Symbolic Anthropology.** (3:3:0)F odd yr.
Social use and understanding of semiotics, signs, symbols, and other meaningful forms as critically constitutive of culture.

**438. Social Stratification.** (3:3:0)
Anthropological consideration of organized social inequality, focusing on class, caste, gender, and ethnicity.

**439. Theory of Complex Societies.** (3:3:0)
Anthropological approaches to complex societies—from those historically of at least state level to the modern integrated world system.

**440. Small-Scale Societies.** (3:3:0) W even yr.
Ethnographic and archaeological studies of band and tribal societies (hunter-gatherers and simple farmers) from around the world.

**442. Ethnographic Skills.** (3:2:Arr.) F
Methods, rationale, limitations, and ethical issues of participant observation, interviewing, quantitative measurement, and other procedures of ethnographic fieldwork. Local field project.

**447. Applying Anthropology.** (3:3:0) Prerequisite: 12 hours of anthropology credit.
Seminar-workshop. Anthropological principles and methods applied to business, education, communications, development projects, health sciences. Careers, ethics.

**454R. Field School Preparation.** (1:1:1 ea.) W

**455R. Field School of Archaeology.** (1–6:0:Arr. ea.) Sp or Su
Training and experience in excavation at a BYU-sponsored dig.

**456R. Lab Skills for Anthropology.** (2–6:Arr.:Arr. ea.) F Prerequisite: Anthr 455R.
Analytical and laboratory techniques as part of a BYU-sponsored archaeological project.

**470. Museology.** (3:1:4)
Philosophy, methods, and techniques of the planning, operation, and promotion of museums as educational and research institutions.

**475. Introduction to Museum Practices.** (3:2:4) W Prerequisite: instructor's consent.
Broadest possible range of experience in museum disciplines (registration, curation, exhibition, museum law and ethics, etc.) Career paths.

**490R. Special Topics in Theory and System.** (3:3:0 ea.) On dem.
Subjects related to anthropological theory or the operation of social systems. Offered when unique opportunities or needs arise.

**495. Ethnographic Field Project.** (3:0:Arr.)
Individual field project approved by two faculty: conduct field work, maintain field notes, and write a paper incorporating both descriptive and analytic components.

**496R. Research.** (1–3:Arr.:Arr. ea.) Prerequisite: supervising instructor's consent.
Field or library research.

**497. Directed Readings.** (3:Arr.:0) Prerequisite: supervising instructor's consent.
Reading 2,500 pages on a stated topic.

**499R. Senior Thesis.** (1–5:0:0 ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**505. Anthropological Theory.** (3:3:0) F Prerequisite: 30 hours of anthropological courses including Anthr 205, 305, 405.
Major contributions to development of anthropological theory, circa 1970 to present.

**510. History of Archaeology.** (3:3:0) F, W
Historical approach to development of archaeological knowledge, method, and theory, emphasizing North America and individual contributions.

**515. Settlement, Trade, and Urbanism: Understanding the Ancient Landscape.** (3:3:0) F even yr. Prerequisite: 30 hours of undergraduate anthropology courses.
Comparative study of beginnings of settled life, systems of exchange, and city life. Special attention to theory as applied to evidence from the new and old worlds.

**520. Economic Anthropology.** (3:3:0) F Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 205, 305, 405.
Social context of production, distribution, and consumption in nonindustrial societies; technology; exchange and redistribution of resources. Currency, property rights, capital, recruitment, and rewards of labor.

**530. Great Basin Archaeology.** (3:3:0) F odd yr. Prerequisite: Anthr 350.
Overview of Great Basin ethnography and prehistory, emphasizing current issues in archaeological research.

**535. Southwest Seminar.** (3:3:0) F even yr. Prerequisite: Anthr 350.
Current issues in archaeological research in American Southwest.

**540. Issues in Historic Archaeology.** (3:3:0) W even yr. Prerequisite: Anthr 380.
In-depth review of issues, trends, and methods of historic archaeology.

**550. (Anthr-Ling) Sociolinguistics.** (3:3:0) W
Research and theory in anthropological linguistics and sociolinguistics.

**551. (Anthr-Ling) Anthropological Linguistics.** (3:3:0) F
Language in culture and society: development, typology, and description.

**560. Comparative Mayan Linguistics.** (3:3:0) F
Grammatical, semantic, lexical, and phonological issues in comparative Mayan. Historical linguistics of Mayan language family. Languages relevant to understanding classic Mayan language and script emphasized.

**562. Formative Mesoamerica.** (3:3:0) F Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 355.
Topics and issues concerning beginnings and development of Mesoamerican civilizations. Mexican and Mayan antecedents of classic Mayan civilization and culture.

**564. Classic Mayan Civilization.** (3:3:0) W Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 355.
Topics and issues concerning archaeological and cultural aspects of classic Mayan civilization and society.

**566. Mayan Ethnohistory.** (3:3:0) F odd yr. Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 355.
Topics and issues of cultural change, colonization, and documentation of change processes in the Mayan region, from postclassic period and independence from Spain.

**568. Modern Mayan Society.** (3:3:0) W Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 326.
Advanced analysis of cultural process issues among the Maya, from their independence from Spain to present.

**572. Ancient Mayan Writing 1.** (3:3:0) F even yr.
Nature and content of Mayan hieroglyphic writing, from A.D. 100 to 1600. Methods of decipherment, introduction to textual analysis, and application to interpreting Mayan language, art, world view, and society. Literacy and the Mesoamerican background of Mayan script.

**574. Ancient Mayan Writing 2.** (3:3:0) W odd yr. Prerequisite: Anthr 372 or 572.
Advanced study of Mayan hieroglyphic writing. Guided workshop focusing on inscriptions, rituals, dynastic history, and linguistic records from major Mayan cities. Archaeological setting and preparation of technical commentaries emphasized.

**575. Writing Systems.** (3:3:0) W even yr. Prerequisite: 30 hours of undergraduate anthropology courses.
Comparative study of writing around the world, emphasizing ancient scripts. Topics include: linguistic concepts; social, political, and economic function of early script; ancient literacy; development and extinction of script.

**580. Near East Seminar.** (3:3:0) F even yr. Prerequisite: 30 hours of undergraduate anthropology courses including Anthr 378.
Current issues in Near Eastern archaeological research.

**585. Current Issues in African Ethnography.** (3:3:0) Sp Prerequisite: Anthr 330 or instructor's consent.
Current anthropological issues: rise of markets and labor systems; statism and nationalism; change in domestic life; globalization of African culture; tradition amid change.

**590R. Seminar.** (2–3:Arr.:0 ea.) On dem.
Special topics in archaeology.

**596. Museum Projects.** (3:2:4) F, W Prerequisite: Anthr 475 or equivalent; instructor's consent.
One or more supervised museum projects, such as producing an exhibition, developing educational materials, or accessing collections.

**599R. Federal Agency Internship.** (1–6:0:0 ea.) On dem.
Earning credit while employed in federal agency archaeology. Agencies include the BLM and U.S. Forest Service.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Anthropology Faculty

**Professors**
Berge, Dale L. (1968) BS, MA, Brigham Young U., 1961, 1964; MA, PhD, U. of Arizona, 1967, 1968.
Forsyth, Donald W. (1979) BA, MA, Brigham Young U., 1971, 1972; PhD, U. of Pennsylvania, 1979.
Hawkins, John P. (1974) BS, Brigham Young U., 1970; MA, PhD, U. of Chicago, 1972, 1978.
Matheny, Ray T. (1964) BA, MA, Brigham Young U., 1960, 1962; PhD, U. of Oregon, 1968.

**Associate Professor**
Houston, Stephen D. (1994) BA, U. of Pennsylvania, 1980; MA, PhD, Yale U., 1983, 1987.
Janetski, Joel C., (1983) BA, Brigham Young U., 1965; MA, PhD, U. of Utah, 1977, 1983.
Johnson, David J. (1987) BA, MA, PhD, U. of Utah, 1972, 1982, 1987.

**Assistant Professors**
Clark, John E. (1990) BS, MA, Brigham Young U., 1976, 1979; PhD, U. of Michigan, 1994.
Crandall, David P. (1994) BA, Brigham Young U., 1986; MPhil, DPhil, Oxford U., England, 1989, 1993.

**Adjunct Assistant Professors**
Allen, Marti Lu (1992) BA, U. of Missouri, Columbia, 1975; AM, PhD, U. of Michigan, 1978, 1985.
Olsen, Steven L. (1992) BA, Brigham Young U., 1975; AM, PhD, U. of Chicago, 1978, 1985.
Wilde, James D. (1984) BA, U. of New Mexico, 1972; MA, PhD, U. of Oregon, 1978, 1985.

**Emeriti**
Jakeman, M. Wells (1946) BA, U. of Utah, 1931; MA, U. of Southern California, 1932; PhD, U. of California, Berkeley, 1938.
Sorenson, John L. (1971) BS, MA, Brigham Young U., 1951, 1952; MS, California Inst. of Technology, 1952; PhD, U. of California, Los Angeles, 1961.

# Arabic

See Asian and Near Eastern Languages.

# Art

See Visual Arts

# Asian and Near Eastern Languages

Van C. Gessel, Chair
4052 JKHB, PO Box 26027, (801) 378-3396

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Asian and Near Eastern Languages are open enrollment. Some special limitations apply for teaching majors.

## The Discipline

The many countries of Asia and the Near East are among the oldest civilizations in the world. The study of the languages and cultures of these nations gives students access to some of the richest and most varied traditions of thought, belief, and behavior to be found in the world. A large percentage of the vast, essentially non-Christian segment of the world's population resides in these two zones: Asia—with its diverse heritage of belief in Hinduism, Buddhism, Taoism, Confucianism, and other systems of thought—continues to retain its "exotic" image for most Westerners, even though many nations in the region are at the forefront of contemporary politics and economics. The Near East, birthplace of Christianity, Judaism, and Islam, remains a little-understood, often stereotyped area of considerable economic, strategic, and religious importance today.

The languages of these regions are themselves generally difficult, with complex writing systems that require diligent study. But exposure to these languages and the cultures they express will enable students to look at the world from new perspectives and deepen their understanding of peoples whose history and practices are widely divergent from their own.

Courses in the department equip students with verbal and written facility in the languages of their chosen area, whereas linguistics courses offer an understanding of how the languages are structured and acquired. A study of the literature reveals old and sophisticated traditions no less important than that of English or any other major language.

Majors are available in Chinese, Japanese, and Korean. Students can obtain a minor in Arabic and Hebrew. Each major discipline is briefly described below.

**Chinese (Cantonese and Mandarin):** The study of Chinese accesses the literature, thought, culture, and society of the world's largest population with the longest cultural continuum; moreover, since the civilizations of Japan, Korea, and Vietnam are founded on traditional Chinese Confucianism, a major in Chinese opens up much of the wider world of modern Asia. You will communicate in spoken and written Mandarin, gain skills in analyzing and appreciating both traditional and modern literature, acquire effective research strategies, and learn to write clearly and persuasively. All the personal enrichment and interpersonal understanding that results from a liberal arts education in the humanities is offered through the study of Chinese.

**Japanese:** Although Japan's current economic successes are widely recognized and often criticized in the U.S. today, few people know much about the rich cultural heritage of Japan in literature, thought, painting, music, and the other arts. The study of Japanese language and literature will introduce you to many of the major aspects of that heritage while providing the kind of training in language and social skills that will prepare you to undertake careers in a wide variety of fields. The study of Japanese at the university level is aimed at providing you with superior language skills—in both speaking and reading—and a sophisticated understanding of Japan and its people acquired through an examination of the literature and culture.

**Korean:** Korean is a difficult language, and at BYU we emphasize reading and writing the language as well as speaking and listening. Basic course work emphasizes linguistic skill and the language's literary value and tradition.

**Note:** Instruction is also regularly available in Hebrew, Arabic, and Thai.

## Career Opportunities

Students who major or minor in the languages and cultures of Asia and the Near East will find that, as will any other humanities-centered course of study, they have been well provided with tools to communicate both in the target language and in English and have broadened and deepened their knowledge of the region of their choice. Career options are many and varied for such students, but those who do not plan to continue on in the academic study of the language are strongly urged to consider a second major or a strong minor in a practical field that can be combined with their language skills. In the competitive world of today, language ability alone no longer provides the competitive advantage it once offered on the job market. Students are urged to consult the College of Humanities Advisement Center, Career Placement Services, and their academic advisors for the best ways to make use of their language as they begin to seek employment.

**Chinese:** Chinese majors have all of the advantages of the liberal arts graduate (who claims effective communication and interpersonal skills) with the added edge of knowing the language and culture behind a leading world economy. Therefore, graduates enter the work force in a wide variety of occupations, such as journalism, insurance, business, travel, investment, and government service. They not only are marketable as trained linguists, translators, and cultural advisors, but are vigorously recruited as personnel managers and business representatives by companies with overseas interests.

**Japanese:** In recent years, graduates from the Japanese major at BYU have gone on to law or MBA programs, others have continued on to medical school, and a few have pursued graduate work in a variety of academic fields at some of the most prestigious universities in the country. Others have gone directly to work in government service, in the military, and in American or Japanese business firms where their language ability and cultural background are in high demand.

**Korean:** There are virtually no jobs available for students with only a Korean major to offer. However, Korean as a second major makes employability in the area of a student's first major even stronger. Korean, as a second major, is complementary and supportive of practically all other BYU majors. Korean combined with English or history, for example, makes an excellent prelaw or pre-MBA program. Korean with accounting or business prepares for a career in international business. Korean and political science or international relations help prepare for the foreign service. Korean and a technical major prepare to compete for employment in the international arena of computers and other scientific advancements currently focused in Pacific Rim locations.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

Note 1: For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

Note 2: Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Chinese |
| BA | Chinese Teaching |
| BA | Japanese |
| BA | Japanese Teaching |
| BA | Korean |
| Minors | Chinese |
| | Chinese Teaching |
| | Japanese |
| | Japanese Teaching |
| | Korean |
| | Arabic |
| | Hebrew |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | Language Acquisition (Arabic, Chinese, Japanese, or Korean) |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

**Language Credit by Examination**

Credit by examination is available for many lower-division courses of the above-listed languages. Enrollment in an advanced class is prerequisite to taking the examination.

The following languages are *not* taught on a regular basis but may be offered if sufficient demand exists. Credit by examination is available for some of the languages listed below.

| Asian Languages | Near Eastern Languages |
|---|---|
| Hindi | Akkadian |
| Vietnamese | Aramaic |
| | Egyptian |
| | Persian (Farsi) |
| | Syriac |
| | Turkish |
| | Ugaritic |

# *Chinese*

## BA Chinese (41 hours*)

**Major Requirements**

1. No D credit will be accepted in major courses.
2. Complete the following:
   Chin 202, 301, 302, 321, 322, 495.
3. Select one course from the following:
   Chin 343, 344.
4. Select one course from the following:
   Chin 325, 326.
5. Select three courses from the following:
   Chin 441, 442, 443, 444.
6. Complete 6 additional hours required from upper-division Chinese. It is mandatory that students consult with their advisor to determine supporting courses appropriate to professional goals.

*Hours include courses that may fulfill GE or university requirements.

## BA Chinese Teaching (82–88 hours,* including certification hours)

**Major Requirements**

1. No D credit will be accepted in major courses.
2. Complete an approved teaching minor (approximately 16–21 hours).
3. Complete the following:
   Chin 202, 301, 302, 321, 322, 325, 326, 344, 377, 441.
4. Select one course from the following:
   Chin 343, 345.
5. Select one course from the following:
   Chin 443, 444.
6. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Chinese (20–22 hours*)

1. Complete the following:
   Chin 301, 302, 441.
2. Select one course from the following:
   Chin 443, 444.
3. Select one course from the following:
   Chin 321, 322.
4. Select one course from the following:
   Chin 343, 344.
5. Complete one additional class above 301.

*Hours include courses that may fulfill GE or university requirements.

## Minor Chinese Teaching (27 hours*)

1. Complete the following:
   Chin 301, 302, 326, 377, 441.
2. Select one course from the following:
   Chin 321, 322.
3. Select one course from the following:
   Chin 443, 444.
4. Select one course from the following:
   Hist 343, 348R.

*Hours include courses that may fulfill GE or university requirements.

## Chinese—Mandarin (Chin)

### Undergraduate Courses

**100A. Beginning Mandarin, Slow Paced.** (2:2:1)
Easy conversation and vocabulary building.

**100B. Beginning Mandarin, Slow Paced.** (2:2:1) Prerequisite: Chin 100A.
Writing system, vocabulary, and easy conversation and composition. Chin 100A and B together are equivalent of 101.

**101. First-Year Mandarin.** (4:5:2)
Basic grammar, vocabulary building, speaking.

**102. First-Year Mandarin.** (4:5:2) Prerequisite: Chin 101 or equivalent.
Continuation of Chin 101.

**200. Chinese Calligraphy.** (1:1:0) Prerequisite: Chin 101 or equivalent.
Training in the art of writing Chinese characters with a brush.

**201. Second-Year Mandarin.** (4:5:1) Prerequisite: Chin 102.
Advanced grammar, the writing system, reading and writing, speaking.

**202. Second-Year Mandarin.** (4:5:1) Prerequisite: Chin 201.
Advanced grammar, the writing system, reading and writing, speaking.

**211R. Second-Year Conversation.** (2:2:1 ea.) Prerequisite: Chin 102.
Emphasis on fluency and vocabulary building.

**301. Third-Year Mandarin.** (4:5:1) Prerequisite: Chin 202.
Discourse grammar, advanced reading.

**302. Third-Year Mandarin.** (4:5:0) Prerequisite: Chin 301.
Advanced-level Mandarin skills, especially discourse and reading.

**311R. Third-Year Conversation.** (2:2:1 ea.) Prerequisite: Chin 202 or equivalent.
Emphasis on sophistication of speech.

**321, 322. Selected Readings of Modern Chinese.** (3:3:0 ea.) Prerequisite: Chin 302.
Complements overall language competency through reading modern texts selected from a wide range of styles and genres.

**325. Structure of Chinese.** (3:3:0) Prerequisite: Chin 202.
Sound, syntax, meaning, and word structure of Mandarin Chinese and its implications to problems of learning Chinese.

**326. Introduction to Chinese Linguistics.** (3:3:0) Prerequisite: Chin 202.
Dialectology, phonology, syntax, semantics, discourse, morphology, and sociolinguistics.

**327. Chinese Translation and Interpretation.** (3:3:0) Prerequisite: Chin 301.
Translation techniques, with practice in oral and written translation either from Chinese to English or from English to Chinese.

**343. Chinese Literature in Translation—Poetry.** (3:3:0)
All readings in English; topics vary.

**344. Chinese Literature in Translation—Prose.** (3:3:0)
All readings in English; topics vary.

**345. Chinese Culture.** (3:3:0)
Introduction to the institutions, culture, philosophy, and fine arts of China. All texts read in English.

**347. Business Chinese.** (3:3:0) Prerequisite: Chin 301 or instructor's consent.
Introduction to terminology and format of business writing in Chinese, emphasizing both reading and writing of various forms of business communication.

**377. Chinese Language Teaching Procedures.** (3:3:0) Prerequisite: Chin 325 or 326 or instructor's consent.
Acquiring knowledge and skills specific to teaching Chinese as a foreign language. Conducted in Chinese and English.

**399R. Cooperative Education: Internship.** (1–9:0:0 ea.) Prerequisite: Chin 202.
On-the-job cultural and/or language experience.

**441, 442. Classical and Literary Chinese.** (3:3:0 ea.) Prerequisite: for 441: Chin 301 or equivalent; for 442: Chin 441.
Introduction to syntax and stylistic patterns.

**443. Modern Chinese Literature.** (3:3:0) Prerequisite: Chin 321 or 322.
Authors, themes, and writing styles of the period 1915–1949.

**444. Contemporary Chinese Literature.** (3:3:0) Prerequisite: Chin 321 or 322.
Contemporary literature of Taiwan and the PRC. Texts in Chinese.

**445R. Chinese Poetry.** (3:3:0) Prerequisite: Chin 343, 441.
Readings in Chinese poetry. Topics vary from classical and modern poetry. Various themes and genres introduced, emphasizing shi poetry.

**490R. Individual Study in Chinese.** (1–3:Arr.:0 ea.) Prerequisite: project approval by instructor.
Assignments to fit individual needs of the advanced student.

**495. Senior Seminar for Majors.** (2:2:0) Prerequisite: advanced knowledge of Chinese.
Research methods in Chinese language sources. Paper required.

### 500-Level Graduate Course (available to advanced undergraduates)

**599R. Cooperative Education: Internship.** (1–9:0:0 ea.)
Prerequisite: coordinator's and department's consent.
On-the-job cultural and/or language experience.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## *Japanese*

### BA Japanese (38 hours*)

**Major Requirements**

1. Students will be required to sit a comprehensive language exam covering grammar and Joyo Kanji as part of Japan 322.
2. A required reading list must be completed, evidenced by successful completion of Japan 492, normally during the last semester before graduation.
3. No D credit is allowed in major courses.
4. Counsel with advisor to determine supporting courses appropriate to your professional goals.
5. Select one course from the following:
   Japan 202, 221.
6. Complete the following:
   Japan 301, 311R, 321, 322, 441, 443, 444, 492.
7. Select one course from the following:
   Japan 325, 326.
8. Select one course from the following:
   Japan 343, 344, 353.
9. Select 6 hours from the following:
   Japan 325, 326, 343, 344, 345, 353, 377. (Optionally, one of the following may be substituted for Japan 345: Hist 345, 346, PlSc 354, 384.)

**Recommended Courses**

It is recommended that students complete Engl 311 or similar courses before enrolling in advanced literature courses.

*Hours include courses that may fulfill GE or university requirements.

### BA Japanese Teaching (87–93 hours,* including certification hours)

**Major Requirements**

1. Students will be required to sit a comprehensive language exam covering grammar and Joyo Kanji as part of Japan 322.
2. A required reading list must be completed, evidenced by successful completion of Japan 492, normally during the last semester before graduation.
3. No D credit is allowed in major courses.
4. Complete an approved teaching minor (approximately 16–21 hours).
5. Select one course from the following:
   Japan 202, 221.
6. Complete the following:
   Japan 301, 311R, 321, 322, 377, 441, 443, 444, 492.
   Ling 230.
7. Select one course from the following:
   Japan 325, 326.
8. Select one course from the following:
   Japan 343, 344, 353.
9. Select 6 hours from the following:
   Japan 325, 326, 343, 344, 345, 353. (Optionally, one of the following may be substituted for Japan 345: Hist 345, 346, PlSc 354, 384.)
10. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

### Minor Japanese (16 hours*)

1. Select one course from the following:
   Japan 202, 221.
2. Complete the following:
   Japan 301, 311R, 321, 322.

*Hours include courses that may fulfill GE or university requirements.

### Minor Japanese Teaching (25 hours*)

1. Select one course from the following:
   Japan 202, 221.
2. Complete the following:
   Japan 301, 311R, 321, 322, 377.
3. Select one course from the following:
   Japan 325, 326.
4. Select one course from the following:
   Japan 343, 344, 345, 353.

*Hours include courses that may fulfill GE or university requirements.

### Japanese (Japan)

### Undergraduate Courses

**100A. Beginning Japanese, Slow Paced 1.** (3:3:1)
Writing system, grammar, and vocabulary. Easy conversation and composition.

**100B. Beginning Japanese, Slow Paced 2.** (3:3:1) Prerequisite: Japan 100A.
Continuation of Japan 100A.

**101, 102. First-Year Japanese.** (4:5:1 ea.) Prerequisite: for 102, Japan 101, 100B, or equivalent.
Writing systems, grammar and vocabulary-building fundamentals, easy conversation and composition.

**201. Second-Year Japanese.** (4:5:2) Prerequisite: Japan 102 or equivalent.
Further practice in conversation; basic reading and writing skills, including introduction to Chinese characters.

**202. Second-Year Japanese.** (4:5:0) Prerequisite: Japan 201 or equivalent.
Further practice in conversation, reading, and writing; introducing culture through short stories, articles. Not for returned missionaries.

**211R. Second-Year Conversation.** (1–3:Arr.:0 ea.) Prerequisite: Japan 102 or equivalent. For Japan Study Abroad or Foreign Language Student Residence students only.

**221. Japanese Reading, Grammar, and Culture.** (4:5:0) Prerequisite: Japan 201 or equivalent.
Reading and writing emphasizing essential characters, vocabulary, grammar, and culture. First course for returned missionaries.

**301. Readings in Japanese History and Literature.** (4:5:0) Prerequisite: Japan 202, 221, or instructor's consent.
Readings in Japanese history and literature with essential characters, vocabulary, and grammatical principles.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: Japan 301 or equivalent.
May be repeated for Study Abroad in Japan.

**321. Selected Readings and Grammar.** (3:3:0) Prerequisite: Japan 301 or equivalent.
Readings in modern documentary styles, emphasizing grammar, reading comprehension, and vocabulary building.

**322. Selected Readings and Grammar.** (3:3:0) Prerequisite: Japan 321 or instructor's consent.
Readings in modern short fiction, emphasizing grammar, reading comprehension, vocabulary building, and stylistic analysis.

**325. Japanese Morphology, Syntax, and Semantics.** (3:3:0) Prerequisite: Japan 301.
General overview of grammar and its practical application in composition.

**326. Contrastive Analysis of Japanese and English.** (3:3:0) Prerequisite: Japan 301.
Contrastive overview of Japanese and English phonology, syntax, semantics, and discourse.

**343. Japanese Literature in Translation— Poetry, Drama.** (3:3:0)
Reading and discussion of selected topics in Japanese poetry and drama. All readings in English.

**344. Japanese Literature in Translation— Prose.** (3:3:0)
Reading and discussion of selected topics in early Japanese prose. All readings in English.

**345. Japanese Culture.** (3:3:0)
General survey emphasizing aesthetics, religion, and value systems. All readings in English.

**353. Modern Japanese Novel in Translation.** (3:3:0)
Several major twentieth-century Japanese novels. All readings in English.

**377. Japanese Language Teaching Procedures.** (3:3:0) Prerequisite: Japan 301 or instructor's consent.
Acquiring knowledge and skills specific to teaching of Japanese as a foreign language. Conducted in Japanese and English.

**390. Japanese for Special Purposes.** (3:3:0) Prerequisite: Japan 321 or equivalent.
Readings, video materials, discussions, and projects in content areas related specifically to business, science, and technology.

**399R. Cooperative Education: Internship.** (1–9:0:0 ea.) Prerequisite: Japan 301.
On-the-job cultural and/or language experience.

**441. Introduction to Classical Japanese.** (3:3:0) Prerequisite: Japan 322.
Reading of premodern texts, emphasizing grammar and syntax, and showing differences from and influences on the modern idiom.

**443. Advanced Readings and Grammar.** (3:3:0) Prerequisite: Japan 322 or equivalent.
Reading and discussion of modern expository texts; developing advanced listening skills using authentic materials.

**444. Modern Japanese Literature.** (3:3:0) Prerequisite: Japan 322 or equivalent.
Fictional texts from major twentieth- century authors. Texts primarily in Japanese.

**490R. Individual Study in Japanese.** (1–3:Arr.:0 ea.) Prerequisite: consent of advisor and instructor.
Topics vary. Assignments to fit individual needs of the advanced student.

**492. Majors' Reading List.** (1:1:Arr.) Prerequisite: department approval.
Guided reading course to meet reading list requirement. Required of all majors.

### 500-Level Graduate Course (available to advanced undergraduates)

**599R. Cooperative Education: Internship.** (1–9:0:0 ea.) Prerequisite: Japan 301.
On-the-job cultural and/or language experience.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## *Korean*

### BA Korean (38–41 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Korea 202, 301, 495.
   Hist 342.
3. Select one of the following:
   Korea 325, 326.
4. Select one of the following options:
   **Either**
   Korea 303, 321, 441.
   **Or**
   Korea 315, 340, 443.
5. Select 12–14 hours from the option not selected above and/or the following (depending on selection of options, elective hours should be adjusted so that the major totals 39 hours):
   Korea 311R, 325, 326, 344R, 345, 399R, 411, 427, 441, 471, 490R, 599R.

**Recommended**

Prospective majors are urged to have a concurrent major in another standard discipline.

*Hours include courses that may fulfill GE or university requirements.

## Minor Korean (14 hours*)

1. Complete the following:
   Korea 301.
2. Select one course from the following:
   Korea 303, 315.
3. Complete 7 hours beyond Korea 301.

*Hours include courses that may fulfill GE or university requirements.

## Korean (Korea)

### Undergraduate Courses

**101. First-Year Korean.** (4:5:0)
Basic language skills.

**102. First-Year Korean.** (4:5:0) Prerequisite: Korea 101.
Basic language skills.

**201. Second-Year Korean.** (4:5:0) Prerequisite: Korea 101, 102.
Grammar, vocabulary, reading, and conversation.

**202. Second-Year Korean.** (4:5:0) Prerequisite: Korea 201 or equivalent.
Reading and writing emphasizing essential vocabulary and grammatical principles.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: Korea 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**301. Intermediate Korean.** (4:5:0) Prerequisite: Korea 202 or instructor's consent.
Reading, writing, grammar, and vocabulary.

**303. Introduction to Sino-Korean Characters.** (3:3:0) Prerequisite: Korea 301 or instructor's consent.
Most common Chinese characters used in Korean mixed script writings.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: Korea 211R or foreign residence experience.
Advanced conversational skills.

**315. Selected Readings and Composition.** (3:3:0) Prerequisite: Korea 301.
Improving reading and writing skills. Readings include minimal amounts of Sino-Korean characters.

**321. Sino-Korean Readings and Composition.** (3:3:0) Prerequisite: Korea 303.
Readings in Sino-Korean mixed script texts, including newspapers. Some composition.

**325. Applied Korean Linguistics and Grammar.** (3:3:0) Prerequisite: Korea 301 or instructor's consent.
Applying linguistics to the problems of learning Korean; overview of Korean phonology, morphology, syntax, and semantics.

**326. Contrastive Analysis of Korean and English.** (3:3:0) Prerequisite: Korea 325.
Contrastive overview of phonology, syntax, semantics, and discourse.

**340. Introduction to Traditional Korean Literature.** (4:4:0) Prerequisite: Korea 301.
Korean literature from earliest forms to modern period, emphasizing basic literary concepts.

**344R. Korean Literature in Translation.** (3:3:0 ea.)
Topics vary.

**345. Korean Culture and Society.** (3:3:0)
Understanding Korean peoples and culture through examining social, political, economic, and belief systems as well as literature. All readings in English.

**399R. Cooperative Education: Internship.** (1–9:0:0 ea.) Prerequisite: Korea 301.
On-the-job cultural and/or language experience.

**411. Advanced Conversation.** (2:2:0)
Advanced conversation and listening comprehension.

**427. Korean Translation and Interpretation.** (3:3:0) Prerequisite: Korea 301.
Translation techniques with practice in oral and written translation both from Korean to English and from English to Korean.

**441. Korean Documents.** (4:4:0) Prerequisite: Korea 321 or Chin 441.
Introduction to readings in Chinese texts written as part of Korea's historic tradition, such as genealogies and the Yi Dynasty Annals. Also current political and economic materials.

**443. Modern Korean Literature.** (4:4:0) Prerequisite: Korea 340.
Survey emphasizing improvement of reading and translation skills. Criticism of literature as well as translations.

**471. Advanced Readings in Korean Language and Literature.** (3:3:0) Prerequisite: Korea 325.
Readings in current linguistic journals and contemporary literature and criticism.

**490R. Individual Study in Korean.** (1–3:Arr.:0 ea.)
Directed readings and individual assignments appropriate to individual needs of advanced students.

**495. Senior Seminar.** (2:2:0)
Individual research, with seminar paper the primary objective. Required for Korean majors.

### 500-Level Graduate Course (available to advanced undergraduates)

**599R. Cooperative Education: Internship.** (1–9:Arr.:0 ea.) Prerequisite: coordinator's and department's consent.
On-the-job cultural and/or language experience. Students must meet departmental requirements and consult coordinator before enrollment. Report required.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

### Asian Languages Courses (AsLa)

**342. Oriental Mythology.** (3:3:0)
Discussion of myths, legends, and folklore traditions in Oriental cultures.

**490R. Individual Study in Asian Literature.** (1–3:Arr.:Arr. ea.) Prerequisite: lower-division courses, mission or commensurate experience, and instructor's consent.
Assignments to fit individual needs of advanced students.

### Cantonese Courses (Cant)

**101. First-Year Cantonese.** (4:5:0)
Basic language skills.

**102. First-Year Cantonese.** (4:5:0)
Basic language skills.

**201. Second-Year Cantonese.** (4:5:0) Prerequisite: Cant 102 or foreign residence experience.
Grammatical patterns and vocabulary of spoken and written Cantonese.

**202. Second-Year Cantonese.** (4:5:0) W Prerequisite: Cant 201 or equivalent.
Intermediate to advanced skills in reading, writing, listening, and speaking.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: Cant 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (2:2:0 ea.) Cant 211 or foreign residence experience.
Advanced conversational skills.

## Hindi Courses (Hindi)

**101, 102. First-Year Hindi.** (4:5:0 ea.)
Basic language skills.

## Thai Courses (Thai)

**101. First-Year Thai.** (4:5:0)
Basic language skills.

**102. First-Year Thai.** (4:4:0 ea.)
Continuation of Thai 101.

**201. Second-Year Thai.** (4:5:0) Prerequisite: Thai 101 and 102 or foreign residence experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: Thai 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**301. Intermediate Modern Thai.** (4:5:0) Prerequisite: Thai 201 or foreign residence experience.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: Thai 211R or foreign residence experience.
Advanced conversational skills.

## Vietnamese Courses (Viet)

**101A, B. First-Year Vietnamese.** (2:3:0 ea.)
Basic language skills. Credit only by examination.

**102. First-Year Vietnamese.** (4:5:0) Prerequisite: Viet 101.
Basic language skills. Credit only by examination.

**201. Second-Year Vietnamese.** (4:5:0) Prerequisite: Viet 101 and 102 or foreign residence experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading. Credit only by examination.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: Viet 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills. Credit only by examination.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: Viet 211 or foreign residence experience.
Advanced conversational skills. Credit only by examination.

## Near Eastern Languages And Literature (NeLg)

*Language Courses*

**Modern: Near Eastern Course**

**321R. Studies in Modern Near Eastern Languages.** (4:4:2 ea.)
Grammar, reading, writing, and conversational skills.

**Ancient: Akkadian, Aramaic, Coptic, Egyptian, Hittite, Sumerian, Syriac, and Ugaritic Course**

**511R. Studies in Ancient Near Eastern Languages.** (2–4:4:0 ea.)
Grammar and reading skills.

*Literature Courses*

**340. Ancient Near Eastern Mythology.** (3:3:0)
Major themes in mythological literature of Egypt, Canaan, Mesopotamia, Anatolia, and ancient Iran. All readings in English.

**345. Texts and Ancient Temples.** (3:3:0)
Major ancient Near Eastern texts dealing with the temple; analysis of primary elements of ancient temple type as a place of worship.

**521R. Special Topics in Ancient Near Eastern Literature.** (2–3:3:0 ea.)
Historical and comparative studies of ancient Near Eastern literature.

# *Arabic*

## Minor Arabic (15–18 hours*)

**Prerequisite**

Arab 101, 102, 201, 211R, 301.

**Minor Requirements**

1. Complete the following:
   Arab 311R.
2. Select 13 additional hours of upper-division Arabic classes from one of the options below:
   a. For students who do not attend the Intensive Arabic Program in Jerusalem, select 13 hours from the following:
      Arab 451, 452, and 5 more hours of upper-division credit.
   b. For students who do attend the Intensive Arabic Program in Jerusalem, select 13 hours from the following:
      Arab 331, 452, and 5 more hours of upper-division credit (usually the Arabic New Testament course and the Arabic history or sociology course taught as part of the Jerusalem program).
3. Select one survey course, taught in English, from the following (unless already taken in conjunction with the Near Eastern Studies major):
   Hum 242.
   Arab 361, 362.

*Hours include courses that may fulfill GE or university requirements.

## Arabic (Arab)

### Undergraduate Courses

**100. Introduction to Arabic.** (1:1.5:0)
Beginning Arabic. Offered at the Jerusalem Center for Near Eastern Studies only.

**101. First-Year Arabic.** (4:5:0)
Basic skills of spoken and written Arabic. Suggested first class for students learning Arabic.

**102. First-Year Arabic.** (4:5:0) Prerequisite: Arab 101.
Second-semester Arabic. Basic language skills, both spoken and written.

**201. Second-Year Arabic—Standard, Written.** (4:5:0) Prerequisite: Arab 102 or equivalent experience and concurrent registration in Arab 211R.
Reading, grammar review, and vocabulary building in written Arabic.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: Arab 102 or equivalent experience and concurrent registration in Arab 201.
Intermediate spoken Arabic.

**301. Intermediate Arabic—Standard, Written.** (4:5:0) Prerequisite: Arab 201 and concurrent registration in Arab 311R.
Continuation of Arab 201.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: Arab 201, 211R, or equivalent experience, and concurrent registration in Arab 301.
Advanced conversation skills.

**331. Spoken Arabic.** (4:5:0) Prerequisite: Arab 311R or equivalent experience.
Intensive study of the spoken language.

**361. Introduction to Modern Arabic Literature in Translation.** (3:3:0)
Reading and discussion of representative sample of modern Arabic short stories, novels, plays, and poetry. All readings in English.

**362. Introduction to Medieval Arabic Literature in Translation.** (3:3:0)
Reading and discussion of representative sample of medieval Arabic literature. All readings in English.

**431. Spoken Arabic—Egyptian Dialect.** (4:5:0) Prerequisite: Arab 331 or equivalent experience.
Introduction to colloquial literature.

**451. Advanced Grammar Review.** (4:5:0) Prerequisite: Arab 301.
Intensive vocabulary building and grammar review.

**452. Newspaper Arabic.** (4:5:0) Prerequisite: Arab 451.
Extensive reading of Arabic newspapers and magazines, with appropriate vocabulary building.

**453. Readings in the Social Sciences.** (3:3:0) Prerequisite: Arab 452.
Reading of original Arabic sources in political science, history, international relations, and other social science fields.

**461. Survey of Modern Arabic Literature.** (3:3:0) Prerequisite: Arab 452.
Reading and discussion of representative sample of modern Arabic short stories, novels, plays, and poetry.

**462. Survey of Medieval Arabic Literature.** (3:3:0) Prerequisite: Arab 452.
Reading and discussion of representative sample of medieval Arabic literary works, including poetry, 'Adab literature, Maqaamaat, folk literature, travel literature, biography, philosophy, and history.

**471. The Structure of Arabic.** (3:3:0) Prerequisite: Arab 452.
Arabic phonology, morphology, syntax, and semantics, with a review of current scholarship in Arabic linguistics.

**490R. Independent Readings.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Independent readings of Arabic materials.

### 500-Level Graduate Course (available to advanced undergraduates)

**531R. Advanced Topics in Arabic.** (1–3:5:0 ea.) Prerequisite: instructor's consent.
Advanced studies in Arabic language and literature.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## *Hebrew*

### Minor Hebrew (20 hours*)

1. Complete the following:
   Heb 201, 331, 431.
2. Select one of the following:
   Heb 202, 312.
3. Select 4 hours from the following:
   Heb 311R, 341, 411R, 441, 442, 443, 444.

*Hours include courses that may fulfill GE or university requirements.

### Hebrew (Heb)

### Undergraduate Courses

**100. Introduction to Hebrew.** (1:1.5:0)
Beginning Hebrew; offered at the Jerusalem Center for Near Eastern Studies only.

**101, 102. First-Year Hebrew.** (4:5:2 ea.)
Modern Hebrew as spoken in Israel today.

**111M, 112M. Honors Hebrew and the Old Testament.** (3:3:0 ea.)
Rapid survey of biblical Hebrew. Must be taken in conjunction with specified Honors section of RelA 301 and 302.

**131, 132. First-Year Biblical Hebrew.** (4:5:0 ea.) Independent Study also.
Old Testament Hebrew. Provides foundation in grammar and vocabulary; reading Hebrew prose texts in Bible.

**201. Second-Year Modern Hebrew.** (4:5:0) Prerequisite: Heb 102 or equivalent.

**202. Intermediate Readings.** (4:4:0) Prerequisite: Heb 201 or equivalent.

**311R. Intermediate Conversation.** (2:2:0 ea.) Prerequisite: Heb 201.

**312. Hebrew Media.** (4:4:4) Prerequisite: Heb 101, 102.
Emphasizes reading, aural comprehension, and speaking Hebrew. Includes newspaper reading, listening to local news on radio and television, and in-class discussion of current events. Offered at the Jerusalem Center for Near Eastern Studies only.

**313. Readings in the Old Testament.** (4:5:0)
Readings in the Old Testament in Hebrew. Offered at the Jerusalem Center for Near Eastern Studies only.

**321. Intermediate Conversation and Media.** (3:3:0) W alt yr. Prerequisite: Heb 101, 102.
Capitalizing on daily life in Jerusalem to increase speaking, reading, writing, and listening comprehension in modern Hebrew. Offered at the Jerusalem Center for Near Eastern Studies only.

**331. Readings in the Hebrew Scriptures 1.** (4:5:0) Prerequisite: Heb 132, 201, or equivalent.
Grammar review and vocabulary building through reading historical and prophetic books.

**341. Introduction to Hebrew Literature.** (3:3:0) Prerequisite: Heb 132 or 331; 202.
Survey of 3,000 years of Hebrew literature; in Hebrew.

**411R. Advanced Conversation.** (4:4:4) Prerequisite: Heb 311R or equivalent.
Emphasizes conversation in everyday situations. Students role play various situations in class and then apply their learning in Jerusalem. Offered at the Jerusalem Center for Near Eastern Studies only.

**421. Readings in the Hebrew Translation of the New Testament.** (4:4:0)
Readings in the New Testament in Hebrew translation. Offered at the Jerusalem Center for Near Eastern Studies only.

**431. Readings in the Hebrew Scriptures 2.** (4:4:0) Prerequisite: Heb 331.
Readings in the poetic and wisdom literature.

**441. Postbiblical Hebrew: Mishnah.** (2:2:0) Prerequisite: Heb 331.
Introduction to the grammar of Mishnaic Hebrew. Readings from various tractates of the Mishnah.

**442. Postbiblical Hebrew: Talmud.** (2:2:0) Prerequisite: Heb 331.
Selected readings from the Talmud.

**443. Postbiblical Hebrew: Medieval Rabbis.** (2:2:0) Prerequisite: Heb 331.
Readings in medieval rabbinic commentaries on the Hebrew scriptures.

**444. Postbiblical Hebrew: Modern Hebrew Biblical Commentaries.** (2:2:0) Prerequisite: Heb 331.
Readings in commentaries on the Hebrew scriptures in modern Hebrew.

### 500-Level Graduate Course (available to advanced undergraduates)

**531R. Studies in Hebrew.** (1–3:3:0 ea.) Prerequisite: Heb 331.

### Asian and Near Eastern Languages Faculty

**Professors**
Gessel, Van C. (1990) BA, U. of Utah, 1973; MA, PhD, Columbia U., 1975, 1979.
Kim, Han Kon (1990) BA, Seoul National U., Korea, 1956; MA, Chonnam National U., Korea, 1960; MA, U. of Hawaii, 1966; PhD, Seoul National U., Korea, 1975.
Parkinson, Dilworth B. (1980) BA, Brigham Young U., 1975; MA, PhD, U. of Michigan, 1976, 1982.
Ricks, Stephen David (1981) BA, MA, Brigham Young U., 1974, 1976; PhD, U. of California, Berkeley, and Graduate Theological Union, 1982.

**Associate Professors**
Honey, David B. (1987) BA, U. of California, Los Angeles, 1980; MA, PhD, U. of California, Berkeley, 1984, 1988.
Miller, J. Scott (1994) BA, Brigham Young U., 1982; MA, PhD, Princeton U., 1986, 1988.
Peterson, Daniel C. (1986) BA, Brigham Young U., 1977; PhD, U. of California, Los Angeles, 1990.
Peterson, Mark A. (1983) BA, Brigham Young U., 1971; MA, PhD, Harvard U., 1973, 1987.
Russell, Robert A. (1982) BA, U. of Utah, 1968; PhD, Harvard U., 1977.
Watabe, Masakazu (1977) BA, MA, Brigham Young U., 1972, 1973; PhD, U. of Southern California, 1978.
Williams, Gary S. (1966) BA, Brigham Young U., 1962; PhD, U. of Washington, 1973.

**Assistant Professors**
Belnap, R. Kirk (1990) BA, MA, Brigham Young U., 1983, 1986; PhD, U. of Pennsylvania, 1991.
Bourgerie, Dana S. (1991) BA, U. of Minnesota, 1982; MA, PhD, Ohio State U., 1987, 1990.
Christensen, Matthew B. (1995) BA, Brigham Young U., 1988; MA, PhD, Ohio State U., 1990, 1994.
Parry, Donald W. (1992) BA, MA, Brigham Young U., 1985, 1986; PhD, U. of Utah, 1992.
Perkins, George W. (1975) BA, Brigham Young U., 1962; MA, PhD, Stanford U., 1967, 1977.

**Lecturer**
Rhee, Honam (1987) BA, Hankuk U. of Foreign Studies, Korea, 1959; MA, Yonsei U., Korea, 1977.

**Assistant Lecturer**
Pack, Melvin Deloy (1974) BS, U. of California, Los Angeles, 1965; MA, Brigham Young U., 1973; PhD, U. of Pennsylvania, 1981.

**Emeriti**
Beaman, Bruce W. (1970) BA, Brigham Young U., 1959; MA, Indiana U., Bloomington, 1969.
Lee, Tsaifeng (Mazie) (1965) BA, MA, U. of Hawaii, 1960, 1972.

## Asian Studies

See Kennedy Center for International Studies, David M.

## Astronomy

See Physics and Astronomy.

## Austronesian Languages

See Linguistics.

# Biology

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

Don D. Bloxham, Coordinator, BS Biology
380 WIDB, PO Box 25176, (801) 378-3044

Richard R. Tolman, Coordinator, Composite Teaching Program
591 WIDB, PO Box 25254, (801) 378-4398

## Admission to Degree Program

The degree program in the Department of Biology carries special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

BYU's College of Biology and Agriculture offers programs leading to the BS degree in biology from BYU and a DDS/DMD (dentistry), OD (optometry), or DPM (podiatry) from cooperating professional schools. Interested students declare the combined degree as their major and spend three years at BYU completing all BYU general education requirements and required degree course work. After all BYU requirements are fulfilled, these students attend dental, optometry, or podiatry school for four years. The first year of course work at the professional school is transferred back to BYU, and the BS degree in biology is granted.

## Career Opportunities

Dentistry, optometry or podiatry are careers available upon completion of this degree program.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Program and Degree

BS Biology (combined degree program)

For help or information on the undergraduate programs, please see your college advisement center.

## BS Biology (combined degree program) (52–55 hours*)

**Major Requirements**

1. Students with required GPA and DAT, OAT, or MCAT scores may obtain admission to specified dental, optometry, chiropractic, or podiatry schools after three years of preprofessional education at BYU. After completion of the first year of dental, optometry, chiropractic, or podiatry school, these students will receive a bachelor's degree in biology from BYU. Details are available in 380 WIDB.
2. Please go to the college advisement center and fill out a required contract when you declare this major.
3. Complete the following:
   Biol 130.
   Zool 150, 204, 371, 372, 373, 374, 380.
4. Complete the following:
   Chem 105, 106, 107, 351, 352, 353.
5. Complete the following (Physics not on DAT):
   Phscs 105, 106, 107, 108.
6. Complete an interview with your preprofessional committee.
7. Predental students complete the following:
   Math 110.
   Zool 229, 329, 429.
   Take DAT and apply through AADSAS.
8. Preoptometry students complete the following:
   Math 110; 112 or 119.
   Zool 227.
   Take OAT and apply to schools.
9. Prepodiatry students complete the following:
   Math 110.
   Zool 339.
   Take MCAT and apply through AACPMAS.
10. Apply for graduation and be sure all general education requirements are completed before leaving BYU.

*Hours include courses that may fulfill GE or university requirements.

## Biology Composite Teaching

See Departments of Botany and Range Science, Microbiology, Zoology, or Secondary Education for information about these degree programs.

## Biology Teaching Minor

See Departments of Botany and Range Science, Microbiology, or Zoology for information about this minor.

## Biology Courses (Biol)

**100. Principles of Biology.** (3:3:1) F, W, Sp, Su Honors and Independent Study also.
Introductory course for General Education students.

**101. Principles of Biology Laboratory.** (1:0:2) F, W, Sp, Su
Prerequisite: concurrent registration in Biol 100. Required of all elementary education and early childhood education majors; enrollment limited to elementary education or early childhood education majors.

**130. Introduction to Biology.** (4:4:1) F, W, Sp
Principles of biology for majors and minors.

**190R. Biology and Agriculture Seminar.** (1:1:0) F, W
Exploration of issues in biology and agriculture; presentations by faculty and guest lecturers.

**276. Heredity and Reproduction.** (3:3:0) Independent Study also.
Prerequisite: any biology course.
Principles of inheritance.

**398R. Biology Teaching Seminar.** (1–2:0:0 ea.) F, W, Sp, Su
Students in an academic team assist instructor in design and/or implementation of a class.

# Botany and Range Science

Wilford M. Hess, Chair
401 WIDB, PO Box 25129, (801) 378-2582

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

All degree programs in the Department of Botany and Range Science are open enrollment.

## The Discipline

Plants play a crucial role in the maintenance of life on this planet. The programs in the Department of Botany and Range Science address the historical, current, and future importance of plants in three broad areas: botany, conservation biology, and education.

## Career Opportunities

Botany includes biotechnology, genetics, molecular biology, physiology, morphology, systematics, and ecology. Traditional fields are combined with recent areas of specialization that qualify students for a wide range of careers in the study, culture, and utilization of plants. Graduates find employment with private industry, state, and federal agencies and are well prepared for graduate programs.

Conservation biology deals with the protection, maintenance, and restoration of biodiversity on earth through study of plants and the animals with which they interact, as well as the processes of global change that affect their populations. The broad approach of the conservation biology program prepares students for employment in governmental and private agencies charged with managing our human environment, watersheds, wildlife populations, rangelands, wetlands, forests, deserts, coastlines, seas, and other critical natural resources. In addition, this program prepares students for postgraduate training in conservation biology, wildlife, ecology, evolutionary biology, systematics, and range science.

The Biological Science Education Program reaffirms our commitment to provide rewarding courses for students in General Education, Honors, and science education. Faculty and students are involved in the development of excellent curricula, laboratory, and field experiences to enhance the appreciation and understanding of biotic systems by all students and to provide excellent training for future teachers.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Botany
Emphases (optional):
Biotechnology
Premedical-Predental
BS Molecular Biology
BS Conservation Biology
Emphases:
Resource Conservation
Premedical-Predental
Wildlife Biology
BS Range Science
Emphases:
Production-Agribusiness
Range Resources
BS Wildlife and Range Resources
Emphasis (optional):
Premedical-Predental
BS Biology Composite Teaching
Minors Biology Teaching
Botany
Conservation Biology
Range Science

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Biological Science Education
MS Botany
MS Molecular Biology (collegewide interdisciplinary degree)
MS Range Science
MS Wildlife and Range Resources
PhD Botany

PhD Molecular Biology (collegewide interdisciplinary degree)
PhD Wildlife and Range Resources

For more information see the 1996–97 BYU Graduate Catalog.

## BS Botany (55–60 hours*)

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   AgHrt 282, 283.
   Biol 130.
   Botny 210, 321, 331, 332, 341, 342, 343, 350, 351, 440, 475, 491.
   Math 110.
3. Select one course from the following:
   Math 119.
   Phscs 100.
4. Select one course from the following:
   Stat 221, 222, 501.
5. Select one of the following options:
   **Either** Chem 101, 103, 152
   **Or** Chem 105, 106, 107.

**Recommended Courses**

Botny 205, 407, 480, 485, 500.
Chem 481.
Mcbio 221, 222.
Range 455.

**Recommended Courses for Premedical/Predental Students**

Botany majors may be interested in attending medical school. Those seeking acceptance to professional schools should complete the following:

Chem 351, 352, 353 (preceded by 105, 106, 107).
Phscs 105, 106, 107, 108.
Zool 260; 261 or 460; 380.

*Hours include courses that may fulfill GE or university requirements.

## BS Botany: Biotechnology Emphasis (60–69 hours*)

The biotechnology emphasis focuses on the applied aspects of plant genetic improvement. Students in this option take a variety of courses in both basic and applied biological sciences and gain firsthand experience in plant molecular biology, breeding, and genetics, including procedures in the greenhouse and field. This major will prepare students for employment following completion of the BS degree or for graduate studies in plant genetics, breeding, and biotechnology.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130.
   Botny 210, 321, 341, 342, 343, 440, 475, 485, 491.
   AgHrt 459.
3. Select one of the following options:
   **Either** Botny 250
   **Or** Botny 350, 351.
4. Select one of the following options:
   **Either** Math 112, 113
   **Or** Math 119.
5. Complete the following:
   Chem 105, 106.
6. Select one of the following options:
   **Either** Chem 152
   **Or** Chem 351, 352.
7. Select one of the following options:
   **Either** Phscs 105, 106
   **Or** Phscs 121, 122.
8. Select 5 hours from the following:
   AgHrt 220, 240, 282, 283, 471.
   Botny 480, 522, 523, 559, 574.
   Chem 481, 586.
   Mcbio 441, 442.

**Recommended Courses**

Botny 205, 480.
Chem 223.
Geog 401.
Geol 111, 112.
Mcbio 221, 222.

*Hours include courses that may fulfill GE or university requirements.

## BS Botany: Premedical-Predental Emphasis (65–67 hours*)

This emphasis is specifically designed for students preparing for advanced professional training in medicine, dentistry, or law. It also provides excellent preparation for graduate studies in the plant sciences as a career alternative.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130.
   Botny 105, 341, 342, 343, 475, 491.
   Phscs 105, 106, 107, 108.
   Zool 260, 380, 460.
3. Select one of the following options:
   **Either** Botny 250
   **Or** Botny 350, 351.
4. Select one of the following options:
   **Either** Chem 105, 106, 107
   **Or** Chem 111, 112, 226.
5. Complete the following:
   Chem 351, 352, 353.
6. Complete the following:
   Math 110, 119.

**Recommended Courses**

AgHrt 282, 283.
Botny 205, 321, 440, 480.
Chem 223.
CS 130.
Geog 401.
Geol 111, 112.
Mcbio 221, 222.
Stat 221.
Zool 331.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Botany (73–75 hours*)

The molecular biology degree provides instruction in the fundamentals of biology, mathematics, physics, and chemistry, along with preparation in molecular biology. This is an excellent program for students interested in graduate study in cellular and molecular biology and related fields.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130.
   Botny 210, 321, 341, 342, 343, 440, 475, 485, 491.
3. Select one of the following options:
   **Either** Botny 250,
   **Or** Botny 350, 351.
4. Complete the following:
   Chem 105, 106, 351, 352, 481.
5. Select one course from the following:
   Math 112, 119.
6. Select one course from the following:
   Mcbio 442.
   Chem 586.
7. Select one of the following options:
   **Either** Phscs 105, 106, 107, 108,
   **Or** Phscs 121, 122, 221.
8. Complete the following:
   Mcbio 351, 441.

**Recommended Courses**

Botny 205, 480, 522, 523, 530, 531.
Mcbio 221, 222, 351, 404, 504, 561.
Chem 223, 468, 582, 584.
Geog 401.
Geol 111, 112.

*Hours include courses that may fulfill GE or university requirements.

## BS Conservation Biology: Resource Conservation Emphasis (68–71 hours*)

The resource conservation emphasis is designed to provide students with a broad scientific, ethical, and cultural background in preparation for a career in professional conservation. Graduates will be equipped to deal with the issues and problems of sustainable resource usage, conservation of endangered biota, long-term preservation of biodiversity, development and preservation of natural resources, and management and conservation of ecosystems. Students will find employment in many realms of environmental and cultural biology in developed as well as undeveloped countries.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130.
   Botny 105, 210, 341, 350, 351, 400, 407, 440, 475.
   Zool 204.
3. Select one of the following options:
   **Either** Chem 101, 103, 152
   **Or** Chem 105, 106, 107.
4. Complete the following:
   Math 110, 119.
5. Select one course from the following:
   Stat 221, 222.
5. Select 17 hours from the following:
   AgHrt 282, 283, 303, 305, 460, 491R, 520, 560.
   Botny 120, 205, 250, 405, 415, 485, 507.
   Econ 240.
   Geog 101, 301.
   Geol 101, 111.
   PlSc 535, 536.
   Range 455, 466, 500, 565, 568.

**Recommended Courses**

AgHrt 240, 305.
Botny 550.
Econ 110.
Geog 212, 401, 515.
Geol 103, 112.
PlSc 558.

**Recommended Courses for Premedical/Predental Students**

Conservation biology majors may be interested in attending medical school. Those seeking acceptance to professional schools should complete the following:

Chem 351, 352, 353 (preceded by 105, 106, 107).
Phscs 105, 106, 107, 108.
Zool 260; 261 or 460; 380.

*Hours include courses that may fulfill GE or university requirements.

## BS Conservation Biology: Premedical-Predental Emphasis (67 hours*)

This emphasis would appeal to students concerned about ecology, natural resources, and conservation who also desire a career in medicine.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130.
   Botny 341, 342, 350, 351, 407, 440, 475.
   Zool 204, 260, 380.
   Chem 105, 106, 107, 351, 352, 353.
   Math 110, 119.
   Phscs 105, 106, 107, 108.

**Recommended Courses**

Botny 250.
Chem 223, 481.
Geog 120, 331.
Geol 111.
Mcbio 221, 222.
PlSc 230.
Zool 317.

*Hours include courses that may fulfill GE or university requirements.

## BS Conservation Biology: Wildlife Biology Emphasis (55–61 hours*)

This emphasis fulfills the educational requirements suggested by the Wildlife Society for its Professional Wildlife Biologist Certification Program. Students with this emphasis fully qualify on the Federal Register for employment as wildlife biologists. Students are also prepared for eventual professional affiliations with state wildlife agencies as well as a number of federal and international agencies. It is an excellent choice for those planning to enter wildlife or conservation biology graduate programs. Students also qualify as conservation biologists.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Botny 210, 407.
   Range 225, 505, 565.
   Zool 204, 457, 475.
3. Select one course from the following:
   Botny 350.
   Range 354.
   Zool 350.
4. Select one course from the following:
   Botny 351.
   Range 351.
   Zool 351.
5. Select one of the following options:
   **Either** Botny 341.
   **Or** Zool 371, 372.
6. Select one course from the following:
   Botny 440.
   Chem 281.
   Zool 460.
7. Complete the following:
   Chem 101, 103, 152.
8. Select one course from the following:
   Stat 221 or 222.
9. Select one course from the following:
   Botny-Range 551
   Geog 515.
   Range 455.
   Stat 501.
10. Complete one course from the following:
    Zool 446, 447.
11. Complete one course from the following:
    PlSc 535, 536, 539R.
12. Complete one course from the following:
    Botny 105, 120, 205, 331, 332, 515, 527.
    Range 330.
13. Certification by the Wildlife Society requires 6 hours of communication credit beyond GE and departmental requirements. Recommended courses include:
    Comms 150, 307, 310, 495R.
    Consult your advisor for assistance.

**Recommended Courses**

AgHrt 282, 283.
Botny 400.
Comms 150, 307, 310, 495R.
Econ 240.
Geog 211, 212, 310, 401.
Geol 480, 586.
Range 466, 470, 500, 568.
Zool 344, 445, 470.

*Hours include courses that may fulfill GE or university requirements.

## BS Range Science: Production-Agribusiness Emphasis (79–81 hours*)

This emphasis not only includes basic range science courses but also expands training into production agriculture and agribusiness. Additional courses are taken in animal production, forages, and agricultural economics. Besides meeting the requirements of the federal range conservationist and soil conservationist positions, the courses prepare for private-sector careers in ranching, agricultural services, and consulting.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Range 191, 215, 330, 351, 354, 455, 466, 470.
   AgHrt 282, 283, 303.
   AnSc 207.
   Botny 440.
3. Select one course from the following:
   Biol 100, 130.
4. Select one course from the following:
   BusM 380R, 381R, 382R.
5. Complete the following:
   Math 110.
   Engl 316.
   Stat 222.
6. Complete the following:
   Chem 101, 103, 152.

7. Natural resources electives: Select three of the following courses or course combinations:
   Range 225, 469, 561.
   †Econ 210, 211, 260.
   AgHrt 441 and RMYL 425 (must take both to fill one course).
8. Complete the following:
   Acc 200.
   BusM 300, 340.
   Econ 110.
   OrgB 320.

†Only one of these economics classes will count toward the Federal Register.

*Hours include courses that may fulfill GE or university requirements.

## BS Range Science: Range Resources Emphasis (73–74 hours*)

This emphasis provides the broad ecological background and natural resource training necessary for the multiple-use management of range and related wildlands. Students are trained to manage livestock and big game grazing and correlate this with watershed, timber, recreation, and energy resources in the federal, state, and private sector. Students are not only highly qualified for federal range conservationist and soil conservationist positions but also for related state and private employment.

### Major Requirements

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Range 191, 215, 225, 330, 351, 354, 455, 466, 469, 470, 561.
   Biol 130, 276.
   Botny 210, 440.
   AgHrt 240, 282, 283, 303.
   AnSc 207.
3. Select one course from the following:
   AnSc 400, 420.
4. Complete the following:
   Math 110.
   Engl 316.
5. Select one course from the following:
   Stat 221 or 222.
6. Complete the following:
   Chem 101, 103, 152.

### Recommended Courses

Range 441, 515, 527, 565, 568.
RMYL 423, 425.
Zool 344.

*Hours include courses that may fulfill GE or university requirements.

## BS Wildlife and Range Resources (87–90 hours*)

This emphasis satisfies the requirements of the Federal Register in three professional areas: wildlife biology, range conservation, and soil conservation. It prepares students for eventual professional affiliations with state wildlife agencies as well as a number of federal agencies, including the U.S. Forest Service, Bureau of land Management, Fish and Wildlife Service, and Park Service. Graduates are well prepared to deal with complex issues involving wildlife management, range management, and the overall conservation of natural resources. Students are also prepared for graduate programs.

### Major Requirements

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Range 191, 215, 225, 330, 351, 354, 455, 466, 469, 470, 505, 561.
   AgHrt 240, 282, 283, 303.
   AnSc 207.
   Biol 130, 276.
   Botny 210, 440.
   Zool 204, 344, 475.
3. Complete the following:
   Math 110.
   Engl 316.
4. Select one course from the following:
   Stat 221, 222.
5. Complete the following:
   **Either** Chem 101, 103, 152.
   **Or** Chem 105, 106, 107.
6. Select one course from the following:
   Zool 446, 447.

### Recommended Courses

Econ 240.
Range 500, 515, 527, 565, 568.
RMYL 423, 425.
Zool 457.

### Recommended Courses for Premedical/Predental Students

Wildlife and range resources majors may be interested in attending medical school. Those seeking acdeptance to professional schools should complete the following:
   Chem 351, 352, 353 (preceded by 105, 106, 107).
   Phscs 105, 106, 107, 108.
   Zool 260; 261 or 460; 380.

*Hours include courses that may fulfill GE or university requirements.

## BS Wildlife and Range Resources: Premedical-Predental Emphasis (80 hours*)

The primary goal of this emphasis is to prepare students to pursue a career in medicine. A secondary goal is to establish an educational basis for appreciation and ethical consideration of the wildlife and range resources of the world. Additional courses can be prescribed for those seeking careers in wildlife and/or range resources.

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Range 191, 225, 330, 351, 354.
   Botny 210, 341, 342, 343, 475.
   Chem 105, 106, 107, 351, 352, 353.
   Phscs 105, 106, 107, 108.
   Biol 130.
   Stat 222.
   Zool 204, 260, 344, 460.
3. Select one course from the following:
   Range 455.
   Zool 457.
4. Select one course from the following:
   Range 527, 565.
5. Select one course from the following:
   Zool 446, 447.

*Hours include courses that may fulfill GE or university requirements.

## BS Biology Composite Teaching (96–100 hours,* including certification hours)

**Major Requirements**

1. Only 5 hours of D credit in required supporting courses and no grades lower than C– in any botany or range science course will be accepted for graduation.
2. Complete the following:
   Biol 130, 276.
   Botny 105, 205, 250, 475.
   Zool 204, 261, 493.
3. Select one of the following options:
   **Either** Chem 101, 152, 281
   **Or** Chem 105, 106, 107, 351.
4. Complete the following:
   Geol 101.
   Math 110.
   Phscs 105, 106.
5. Complete the following (botany track):
   Botny 210, 440, 491.
   Mcbio 221, 222.
   Zool 344.
6. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

**Recommended Courses**

AgHrt 282, 283.
Botny 120, 321, 480, 527.
Mcbio 311.
Range 225, 565.
Zool 312, 317, 330, 334, 350, 363, 380, 443, 445, 446, 447, 460.
Geol 103, 111, 112.
Math 111, 119.

*Hours include courses that may fulfill GE or university requirements.

## Minor Biology Teaching (29–30 hours*)

1. Complete the following:
   Botny 105, 250.
   Botny-Mcbio-Zool 475.
   Mcbio 221, 222.
   Zool 204, 276, 331.
2. Select one course from the following:
   Botny 205, 210.
3. Select one course from the following:
   Zool 260, 261.

*Hours include courses that may fulfill GE or university requirements.

## Minor Botany (18 hours*)

1. Complete 18 hours in plant science and/or genetics courses. Recommended courses are Botny 105, 341, 440. Biol 130 is accepted.
2. No more than one class may overlap with a designated major.

*Hours include courses that may fulfill GE or university requirements.

## Minor Conservation Biology (18 hours*)

1. Complete the following:
   Botny 400, 407.
2. Select 6 hours from the following:
   Botny 250, 350, 351, 405, 415.
3. Select 6 hours from the following:
   AgHrt 282.
   Botny 244.
   Econ 240.
   Geog 101, 301.
   Geol 101.
   PlSc 536.

*Hours include courses that may fulfill GE or university requirements.

## Minor Range Science (15 hours)

Select 15 hours from the following:
Botny 210.
Range 215, 225, 330, 351, 354, 455, 466, 469, 561, 565.

## Botany (Botny)

### Undergraduate Courses

**105. Plants Through the Ages.** (3:3:0) F, W Independent Study also. Prerequisite: Biol 100 or equivalent.
Comparative and evolutionary investigation of the origin and development of plants.

**120. Plants and Civilization.** (3:3:0) F, W
Relationships of plants to human affairs.

**125. Plant Science.** (2:2:0) F
Basic concepts of plant science for students not taking Biol 130.

**205. Field Botany.** (3:2:4) F, Sp
Common trees and shrubs and their uses.

**210. Plant Classification.** (3:2:3) W, Sp Prerequisite: Biol 130 or equivalent.
General principles of taxonomy and use of manuals, emphasizing classification of temperate flora.

**244. Public Policy, Science, and Hunger.** (3:3:0) F odd yr. Recommended: Biol 100 or equivalent.
Development of biological and agricultural technologies and their effect on world hunger.

**250. Environmental Biology and Ecology.** (3:3:0) F, W
Conservation and management of natural resources concurrent with increasing socioeconomic and human population demands.

**321. Plant Anatomy.** (3:1:5) W even yr. Prerequisite: Biol 130 or equivalent.
Structure of cells, tissues, and organs of vascular plants.

**331. Nonvascular Plants and Fungi.** (3:2:3) F even yr. Prerequisite: Biol 130.
Structures, life histories, and relationships of algae, bryophytes, and fungi.

**332. Vascular Plant Morphology.** (2:1.5:1.5) W odd yr. Prerequisite: Biol 130.
Structures, life histories, and relationships.

**341. Genetics.** (4:4:1)F Prerequisite: Biol 100 or 130; Chem 106 or 152.
Molecular, transmission, population, and qualitative genetics.

**342. Cell and Molecular Biology.** (3:3:1) W Prerequisite: Botny 341.
Molecular biology, structure, and function of plant cells.

**343. Cell and Molecular Biology Laboratory.** (1:0:3) W Prerequisite: Botny 342 or concurrent registration.

**350. (Botny-Zool) Ecology.** (3:3:0) F, W Prerequisite: Biol 100 or 130; Zool 204; Botny 105 or 210; Math 110.
Principles and theory of plant and animal ecology. Analyzing distribution and abundance of life on earth.

**351. (Botny-Zool) Ecology Laboratory.** (1:0:3) F, W Prerequisite: Botny-Zool 350 or concurrent registration.
Introduction to major ecological concepts through field or laboratory exercises, emphasizing appropriate methods for measuring variation under field conditions. Field trips and one major paper required.

**399R. (Botny-Range) Cooperative Education.** (1–9:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: supervisor's consent.
On-the-job experience and education.

**400. Ecology and Conservation of Natural Resources.** (3:3:0) F
Extent, use, and abuse of global natural resources, including significant national and international laws and policies that affect natural resource issues.

**405. Readings in Conservation Biology and Ecology.** (2:2:0) W odd yr. Prerequisite: Botny 250 or equivalent.
Survey of classical and recent literature in conservation biology.

**407. Principles of Conservation Biology and Ecology.** (3:3:0) W Prerequisite: Biol 130 or equivalent.
Core concepts, database, and techniques required to successfully conserve biotic resources.

**415. Current Topics in Conservation Biology.** (2:2:0 ea.) W Prerequisite: senior standing in conservation biology or instructor's consent.
Research project required.

**440. Plant Physiology.** (4:3:3) W Prerequisite: Biol 130 and college chemistry. Recommended: Chem 181; or 351, 352.
Photosynthesis, respiration, water relations, mineral nutrition, growth of flowering plants.

**475. (Botny-Zool) Evolutionary Science.** (3:3:0) F, W, Alt. term Prerequisite: Botny 210 or Zool 204; Botny 250 or Botny-Zool 350; Botny or Zool 341 or Zool 276; or consent of instructor.
Observed organic change and apparent history of life on earth. Comparing study methods, interpreting data, evaluating evidence.

**480. Plant Pathology.** (3:2:3) F odd yr.
Important plant diseases—their identification, causes, and methods of control.

**485. Plant Breeding and Biotechnology.** (4:3:3) W odd yr. Prerequisite: Biol 130.
Introduction to methodology of modern plant breeding and biotechnology.

**491. Senior Seminar.** (2:2:0) W
Synthesis of major areas of botanical knowledge.

**492R. Undergraduate Research Participation.** (1–18:0:Arr. ea.) F, W, Sp, Su Prerequisite: senior standing and supervisor's consent.
Independent student research under faculty supervision.

**498R. Special Problems.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: supervisor's consent.
Multiple titles include: Genetics, Morphology, Ecology, Mycology, Medical Botany.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. (Botny-Range) Physiological and Chemical Ecology.** (3:3:0) W Prerequisite: Biol 130, Botny 350, or equivalents, or instructor's consent.
Ecophysiological response of plants to their environment.

**507. International Issues in Conservation Biology.** (3:3:1) W
International environmental problems, major degradational threats, and options for preservation. Environmental, political, and social costs and benefits of development in underdeveloped countries.

**510. Advanced Taxonomy.** (3:2:3) F on dem. Prerequisite: Botny 210 or instructor's consent.
Review of taxonomic literature and research methods. One three-day field trip arranged.

**515. (Botny-Range) Agrostology: Taxonomy and Ecology of Grasses.** (3:2:4) W even yr. Prerequisite: Botny 210.
Classification and ecology of grasses, emphasizing important forage species.

**520. Ethnobotany.** (3:2:3) Sp even yr. Prerequisite: Botny 120.
Use of plants by diverse human cultures. Integration of current anthropological and botanical literature, emphasizing ethnotaxonomies, survival strategies, and ethnomedicine.

**521. Ethnobotany Practicum.** (1–5:Arr.:Arr.) On dem. Prerequisite: Botny 520.
Ethnobotanical research. May require field trip outside continental U.S. Emphasizes participant observation, interviewing techniques, documentary video and film, botanical collecting techniques, and chemical extraction.

**522. Biological Instrumentation.** (2:2:0) W even yr. Prerequisite: graduate status or instructor's consent.
Theory and application of research instruments to biological problems.

**523. Biological Instrumentation Laboratory.** (2:0:6) W even yr. Prerequisite: Botny 522 or concurrent registration.
Operating research instruments.

**526. (Botny-Zool) Cell Biology.** (3:3:0) F on dem. Prerequisite: introductory course in biochemistry.
Molecular physiology and ultrastructure of cells, emphasizing eukaryotic organisms.

**527. (Botny-Range) Wildland Shrubs.** (3:2:3) Sp even yr.
Taxonomy and ecology of wildland shrubs. Field trip required.

**530. Scanning Electron Optics.** (3:2:4) F, W Prerequisite: instructor's consent.
Theoretical and practical scanning electron microscopy of biological, physical science, and engineering samples, emphasizing practical applications.

**531. Transmission Electron Optics.** (3:2:4) F, W on dem. Prerequisite: instructor's consent.
Theoretical and practical transmission electron microscopy of biological, physical science, and engineering samples, emphasizing practical applications.

**534. Lichenology.** (3:2:3) On dem.
Detailed study of lichens, including classification, morphology, and ecology. Field trip required.

**539. Paleobotany.** (3:2:3) On dem. Prerequisite: Botny 105, Geol 103.
Morphology and relationships of fossil plants.

**540R. Advanced Topics in Plant Physiology.** (3:3:0 ea.) W on dem. Prerequisite: Botny 440 or instructor's consent.

**550. Plant Geography.** (3:2:3) W on dem.
Distribution of plant species and communities in light of present and past climates.

**551. (Botny-Range) Quantitative Ecology.** (3:2:3) W even yr. Prerequisite: Botny- Zool 350 or equivalent; Stat 221, 222, or 501.
Methods of community analysis.

**552. (Botny-Range) Terrestrial and Rangeland Ecosystems.** (4:3:2) F even yr. Prerequisite: Botny-Zool 350 or equivalent; Stat 221, 222, or 501.
Biotic communities of the earth; population dynamics; reproductive, life-form, and longevity patterns; species interactions; structure, dynamics, and evolution of communities.

**554. Population and Conservation Biology.** (3:3:0) F even yr. Prerequisite: Botny-Zool 350 or equivalent.
Analysis of populations in natural settings; theoretical and practical strategies for conserving endangered biota and preserving biodiversity.

**559. (Botny-AgHrt) Advanced Plant Breeding and Biotechnology.** (3:3:0) W even yr. Prerequisite: Botny 485 or equivalent; Botny 341.
Genetics and methods of plant breeding and biotechnology related to improving agronomic and horticultural crops.

**574. (Botny-AnSc) Introduction to Population Genetics.** (3:3:0) F odd yr. Prerequisite: introductory courses in genetics and statistics.
Quantitative study of factors influencing changes in gene frequencies in natural and domestic animal and plant populations.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# Range Science (Range)

## Undergraduate Courses

**191. Introduction to Wildlife, Range, and Other Applied Fields of Ecology.** (1:1:0) F
Professions and curricula are discussed to help students select their individual specialization.

**215. Principles of Range Management.** (3:3:0) W
Overview of rangeland resources and general principles, including rangeland classification, multiple use management, natural resource policy, and grazing management.

**225. Principles of Wildlife Science and Ecology.** (3:3:0) F Prerequisite: Biol 100 or 130.
Principles of wildlife, habitat ecology, and management of natural resource uses with the intent to preserve species and biotic diversity.

**330. (Range-AgHrt) Range and Pasture Plant Ecology.** (3:3:0) W
Identification, characteristics, phenology, distribution, site adaptation, forage value, and response to management of significant range and pasture plants.

**345. (Range-AgHrt-AnSc) Farm and Ranch Planning and Management.** (3:2:2) W
Planning, implementation, and control principles and procedures for managing farm and ranch businesses; accounting and business analysis, budgeting, economic principles, structure, adjusting for risk and uncertainty.

**347. (Range-AgHrt-AnSc) Agricultural Law.** (1:1:0) W
Legal matters that affect agricultural business, including torts, contracts, water, and real property.

**351. Range Ecology Laboratory.** (1:0:3) F Prerequisite: concurrent registration in Range 354.
Introduction to major ecological concepts through field or laboratory exercises, emphasizing appropriate methods for measuring variation under field conditions. Field trips and one major paper required.

**354. Range Ecology.** (3:3:0) F Prerequisite: Biol 100 or 130 and concurrent registration in Range 351.
Principles and theory of plant and animal ecology. Analyzing distribution and abundance of life on earth.

**399R. ( Range-Botny) Cooperative Education.** (1–9:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: supervisor approval.
On-the-job experience and education.

**441. (Range-AgHrt) Harvested Forage Crops.** (2:2:0) W even yr. Prerequisite: Range 330.
Principles of production, mechanical harvesting, storage, and utilization of forage crops.

**455. Range Inventories and Analysis.** (3:2:3) F even yr. Prerequisite: Range 330. Recommended: Stat 221 or equivalent, Range 354 or equivalent.
Range site, suitability, condition and trend, production, availability, utilization, and other measurements on range lands. Field trip required.

**466. (Range-AgHrt) Rangeland Vegetation Improvement.** (3:2:3) F odd yr. Recommended: Range 330, 354.
Habitat improvement for domestic and wild animals. Plant control by mechanical equipment, herbicides, and prescribed fire. Revegetation and reclamation of disturbed lands. Field trips required.

**469. Forest Management and Ecology.** (3:2:2) F odd yr.
Managing forest properties, emphasizing timber production. Field trips.

**470. Natural Resource Planning and Geographical Information Systems.** (3:2:3) F odd yr. Prerequisite: Range 215, 225, 351, 354.
Development of a multiple-use natural resource plan for watershed, forestry, recreation, and wildlife and livestock grazing, using GIS for data acquisition in wildland settings.

**498R. Special Problems.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: supervisor approval.
Selected range topics; includes wildlife, range management, and plant identification 1, 2, 3, and 4.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. (Range-Botny) Physiological and Chemical Ecology.** (3:3:0) W Prerequisite: Biol 130, Botny 350, or equivalents, or instructor's consent.
Ecophysiological response of plants to their environment.

**505. Wildlife Law Enforcement.** (3:3:0) W Prerequisite: Biol 130 or equivalent.
Current and historical principles of federal and state wildlife law enforcement, case development, evidence, evaluation, human rights, and testimony.

**515. (Range-Botny) Agrostology: Taxonomy and Ecology of Grasses.** (3:2:4) W even yr. Prerequisite: Botny 210.
Classification and ecology of grasses, emphasizing important forage species.

**527. (Range-Botny) Wildland Shrubs.** (3:2:3) Sp even yr.
Taxonomy and ecology of wildland shrubs. Field trip required.

**551. (Range-Botny) Quantitative Ecology.** (3:2:3) W even yr. Prerequisite: Botny- Zool 350 or equivalent; Stat 221, 222, or 501.
Methods of community analysis.

**552. (Range-Botny) Terrestrial and Rangeland Ecosystems.** (4:3:2) F even yr. Prerequisite: Botny-Zool 350 or equivalent; Stat 221, 222, or 501.
Biotic communities of the earth; population dynamics; reproductive, life-form, and longevity patterns; species interactions; structure, dynamics, and evolution of communities.

**561. Watershed Management.** (3:2:3) F even yr. Prerequisite: Range 354 or equivalent.
Water-producing characteristics of forest and rangelands, emphasizing laboratory and field studies of soil and vegetation.

**565. Wildlife Behavioral Ecology.** (3:2:3) W Prerequisite: Biol 130, Range 354, or equivalents.
Integration of the principles of ethology, sociobiology, and behavioral ecology using examples from wildlife and livestock. Behavioral sampling methods stressed. Field trip required.

**568. Restoration Ecology.** (3:3:0) W odd yr. Recommended: AgHrt 282; Range 354, 466.
Nature of ecosystem disturbance and plant succession. The developing science and practice of ecological restoration. Case studies of upland and riparian restoration. Field trips required.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Botany and Range Faculty

**Professors**

Andersen, William R. (1966) BS, MS, Utah State U., 1956, 1958; PhD, U. of California, Davis, 1963.
Atwood, N. Duane (1995) BS, Weber State U., 1967; MS, PhD, Brigham Young U., 1969, 1971.
Brotherson, Jack D. (1969) BS, MA, Brigham Young U., 1964, 1967; PhD, Iowa State U. of Science and Technology, 1969.
Cates, Rex G. (1985) BS, MS, Utah State U., 1965, 1968; PhD, U. of Washington, 1971.
Cox, Paul Alan (1983) BS, Brigham Young U., 1976; MSC., U. of Wales, 1978; A.M., PhD, Harvard U., 1978, 1981.
Flinders, Jerran T. (1976) BS, MS, U. of Utah, 1967, 1968; PhD, Colorado State U., 1971.
Harper, Kimball T. (1973) BS, MS, Brigham Young U., 1958, 1960; PhD, U. of Wisconsin, Madison, 1963.
Hess, Wilford M. (1962) BS, Brigham Young U., 1957; MS, PhD, Oregon State U., 1960, 1962.
Hooper, Gary C. (1992) BS, Brigham Young U., 1963; PhD, U. of California, Riverside, 1968.
Roundy, Bruce A. (1994) BA, MS, U. Nevada, Reno, 1973, 1977; PhD, Utah State U., 1984.
Rushforth, Samuel R. (1970) BS, Weber State Coll., 1966; MS, PhD, Brigham Young U., 1968, 1970.
St. Clair, Larry Lee (1976) BS, MS, Brigham Young U., 1974, 1975; PhD, U. of Colorado, 1984.
Smith, Bruce Nephi (1974) BS, MS, U. of Utah, 1959, 1962; PhD, U. of Washington, 1964.
Tidwell, William D. (1966) BS, MS, Brigham Young U., 1954, 1963; PhD, Michigan State U., 1966.
Weber, Darrell Jack (1969) BS, MS, U. of Idaho, 1958, 1959; PhD, U. of California, Davis, 1963.
Welsh, Stanley L. (1960) BS, MS, Brigham Young U., 1951, 1957; PhD, Iowa State U. of Science and Technology, 1960.

**Associate Professors**

Anderson, Val Jo (1988) AS, Snow Coll., 1980; BS, MS, Utah State U., 1982, 1985; PhD, Texas A&M U., 1989.
Fairbanks, Daniel J. (1988) BS, Brigham Young U., 1982; MS, U. of Minnesota, 1985; PhD, U. of Arizona, 1988.

**Professional Professor**

Furniss, H. Blaine (1971) BS, MS, Brigham Young U., 1968, 1975.

**Professional Associate Professor**

Gardner, John S. (1989) BS, Oregon State U., 1968; MS, PhD, Brigham Young U., 1976, 1978.

**Adjunct Faculty**

Ball, Belnap, Brough, Collins, Davis, Gunasekaran, Huffaker, Johansen, McArthur, Meyer, Monsen, Nebeker, Nelson, Pearson, Pederson, B. Pendleton, R. Pendleton, C. Ruas, P. Ruas, Spillett, Van Buren, Wagner

**Emeriti**

Allen, James Vincent (1969) BS, MS, Brigham Young U., 1967, 1968.
Harrison, Bertrand F. (1931) BS, MS, Brigham Young U., 1930, 1931; PhD, U. of Chicago, 1937.
Liechty, William R. (1966) BA, MA, Brigham Young U., 1940, 1952.
Moore, Glen (1954) BS, Brigham Young U., 1949; PhD, U. of Chicago, 1954.
Stutz, Howard C. (1952) BS, MS, Brigham Young U., 1940, 1951; PhD, U. of California, Berkeley, 1956.
Vallentine, John F. (1968) BS, Kansas State U., 1952; MS, Utah State U., 1953; PhD, Texas A&M U., 1959.
VanCott, John W. (1958) BS, Utah State U., 1941.
Whitton, Leslie (1962) BS, Utah State U., 1949; MS, U. of California, Davis, 1953; PhD, Cornell U., 1964.

# Bulgarian

See Germanic and Slavic Languages.

## Business

See Management, J. Willard and Alice S. Marriott School of.

## Canadian Studies

See Kennedy Center for International Studies, David M.

## Cantonese

See Asian and Near Eastern Languages.

## Career Education

See Student Development.

## Central American Indian Languages

See Linguistics.

# Chemical Engineering

Kenneth A. Solen, Chair
350 CB, PO Box 24100, (801) 378-2586

College of Engineering Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

The degree program in the Department of Chemical Engineering carries special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Chemical engineering deals with the development and application of manufacturing processes in which chemical and physical changes of materials are involved. Chemical engineers research and develop new methods to manage energy resources as well as commercial consumer products. They design reliable, cost-effective manufacturing plants and implement air-quality control systems. As problem solvers, chemical engineers work on the leading edge of technology—researching and developing the ideas of today for the designs, systems, and products of tomorrow.

Areas of instruction include heat transfer, fluid dynamics, chemical reaction kinetics, thermodynamics, separation operations, materials science, process control, and plant design. In addition, chemical engineering places strong emphasis on computer skills.

The BS curriculum is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (ABET) and the American Institute of Chemical Engineers.

## Career Opportunities

The combination of knowledge about process engineering, math, and chemistry obtained in the chemical engineering curriculum is a versatile preparation that opens a wide variety of opportunities to graduates. This versatility is one reason why chemical engineers have traditionally been among the highest paid professionals in the engineering and science disciplines.

Chemical engineers make a significant difference in our quality of life. Some develop clean, new energy sources to power society. Some develop and produce fertilizers and other agricultural chemicals to feed mankind. Virtually all pharmaceuticals are produced by chemical engineers to enhance the life of millions. Others study and produce biomedical devices and artificial organs. Still others are involved in development and production of new materials for use in new high-tech products.

The petroleum industry is one of the largest employers of chemical engineers, requiring their expertise for the discovery, production, and refining of petro-chemicals including fuels, chemicals, and oils. Engineers produce chemicals ranging in use from cleaning products to medicines and from man-made fibers for clothing and textiles to plastics for construction and consumer goods.

Many chemical engineers are employed in environmentally related positions, working on ways to improve air and water quality, to reduce acid rain and smog, and to recycle and reduce garbage. Additionally, chemical engineers are employed by universities as teachers and researchers and by government agencies to provide answers for energy, environmental, and defense concerns. Chemical engineers also train to work in the medical, business, and legal professions.

Though chemical engineering career opportunities are diverse, job functions can be categorized more easily. Chemical engineers are usually involved in research, design, development, production, technical sales, or management.

In research, they develop new ideas, new products, and new ways to produce existing products more economically and with less environmental impact.

In design, they create the processes that convert raw materials into finished products with emphasis on efficiency, safety, consumer needs, and environmental protection.

The development engineer improves existing processes and technology to better meet changing needs.

Production engineering involves supervision, quality control, and testing of production processes and operations.

Management and technical sales involve decision making with regard to consumer needs and technical capabilities.

Chemical engineers are creative problem solvers. Their careers are rewarding not only from an intellectual and financial view, but also from a personal perspective. Affecting the lives of millions, their solutions provide a better lifestyle for mankind.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Chemical Engineering
Emphasis (optional):
International

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MEM Engineering Management
MS Chemical Engineering
PhD (Chemical) Engineering

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

The Chemical Engineering Department offers a professional program leading to the bachelor of science degree. The first two years of this program are considered to be preprofessional and permit unrestricted enrollment for any student who qualifies for admission to the university. The remaining two years are considered to constitute the professional program.

Any student who is admitted to the university may choose this program as a possible major. All students are urged to declare their intention to major in the department upon first entry to the university or as soon thereafter as possible by contacting the college advisement center (264 CB). Students electing to major in this program must successfully complete the minimum preprofessional program requirements that follow before applying for acceptance into the department professional program.

**Transfer Students.** Provisions have been made so that a qualified student transferring from a junior college or from another university, college, or department, who has completed the equivalent of the first two years of the academic program, can complete the BS degree requirements in another two years. Contact the department at the earliest date possible so that any variations can be accommodated with minimum loss of time.

**Integrated Master's Program.** At the end of the sophomore year or during the junior year, a student who desires to obtain a master's degree in chemical engineering may elect to enter the integrated master's program. The purpose of this program is to afford greater flexibility in scheduling course work than is normally available through the traditional BS degree followed by MS degree program. In this program students may work toward both the bachelor's and master's degrees simultaneously, either receiving the BS degree before or at the same time as the MS degree. At the end of the sophomore year students must have a cumulative GPA of 3.4 or more. All credit to be counted toward the master's degree must carry a cumulative GPA of 3.0 or better.

Before completing the final 30 hours of undergraduate course work, students should submit a formal application for admission to the Office of Graduate Studies. Additional details may be obtained from the college advisement center.

**Professional Registration.** The Chemical Engineering Department encourages graduates to become registered professional engineers. General qualifications for becoming registered are explained in the College of Engineering and Technology section of this catalog. Some states require this status for consulting and practice in the private sector. Successful completion of the basic chemical engineering program outline prepares graduates to pass the Fundamentals of Engineering (FE) examination. Students who wish to become registered as professional engineers are also advised to talk to their advisor about developing their own professional engineering option, which may include additional FE preparation courses.

## BS Chemical Engineering (102–104 hours*)

**Major Requirements**

1. Due to the complex prerequisite relationships and limited scheduling of these courses, students should consult with the department about their course scheduling.
2. Complete the following preprofessional courses:
   Math 112, 113, 312, 313.
   Chem 111, 112 (or 105, 106, 107).
   ChEn 170, 273, 283, 291R (twice).
   Phscs 121, 122.
3. Complete the following professional courses:
   ChEn 373, 374, 376, 378, 436, 451, 475, 476, 477, 478, 491.
4. Complete the following supporting courses:
   ECEn 301R (2 hours).
   Engl 316.
   Chem 226, 351, 352, 353 (1 hour), 461.
   Biol 100.
   And select one course from the following:
   Econ 110.
   EngT 200.
5. Complete a technical option that emphasizes particular aspects of chemical engineering and requires an additional 15 hours minimum. For each option:
   a. Obtain departmental approval of proposed option.
   b. Complete 2 hours of mathematics or statistics.
   c. Complete 5 hours of engineering.
   d. Complete 3 hours of advanced chemistry (300 level or above). Chem 391 will not meet this requirement. One hour of Chem 497R may be applied to this requirement.
   e. Fill remaining hours with advanced technical electives (300 level or above).
   f. No more than 2 hours of ChEn 498R or Chem 497R may be applied to the option requirements.

   Details of specific recommendations for technical options are listed in the Major Academic Plan (MAP), which is available from the college advisement center or from the Chemical Engineering Department.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (106.5–110.5 hours*)

**Emphasis Requirements**

1. Complete the requirements for the chemical engineering program as outlined above (with the exception of Econ 110 and 3 hours of electives in the option area).
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.

4. After consulting with the college advisement center, select a foreign literature course or a classical civilization course, **or** select one course from the following:
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
   VAHis 260.
5. An international "live-in" experience is required. It may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.

**Recommended**

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Chemical Engineering (ChEn)

### Undergraduate Courses

**170. Introduction to Chemical Engineering.** (2:2:0) F, W
Principles of chemical processes and analyses with spreadsheets and graphics. Applying chemical engineering to current problems.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**273. Chemical Process Principles.** (3:3:0) F, Sp Prerequisite: ChEn 170 or equivalent or concurrent registration; Chem 106 or 112; concurrent registration in Phscs 121, Math 113.
Material and energy balances. College Lecture attendance required.

**283. Computer Programming for Chemical Engineers.** (2:2:0) W, Sp Prerequisite: concurrent registration in Math 312 or 343; ChEn 170 or concurrent registration.
Use of computers to solve engineering problems; Fortran programming and numerical methods of problem solving. College Lecture attendance required.

**291R. Preprofessional Seminar.** (0:1:0 ea.) F, W
Presentations by faculty, advisors, and industrial representatives. College Lecture attendance required. Required both semesters of freshman year.

**310. Introduction to Fossil Fuels and Combustion.** (3:3:0) F
Energy sources, demands, and processes; costs and environmental studies; case studies of various fossil fuel and alternate energy sources; introduction to combustion and flames.

**373. Chemical Engineering Thermodynamics.** (3:3;0) W Prerequisite: Chem 461; ChEn 273.
First and second laws of thermodynamics as applied to behavior of real fluids; physical and chemical equilibrium. College Lecture attendance required.

**374. Fluid Mechanics.** (3:3:0) F Prerequisite: Math 312, ChEn 273.
Basic mass, momentum, and energy relations of fluid flow; design of fluid-handling systems and equipment. College Lecture attendance required.

**376. Heat and Mass Transfer.** (3:3:0) W Prerequisite: ChEn 374, Math 313.
Heat and mass transfer, including conduction, convection, radiation, diffusion; steady and unsteady state systems; transport analogies; design applications.

**378. Science of Engineering Materials.** (3:3:0) F Prerequisite: Chem 351 or instructor's consent.
Fundamental principles of solid materials and their properties and behavior in engineering applications of metals, polymers, ceramics, and glasses.

**411. Air Pollution Control.** (3:3:0) W Prerequisite: instructor's consent. Recommended: junior standing or higher.
Causes and effects of air pollution; standards, criteria, and legislation; dispersion, meteorology, and atmospheric chemistry. Includes design project and use of impact statements.

**412. Introductory Nuclear Engineering.** (3:3:0) W Prerequisite: Math 313; Chem 106 or 112.
Principles and application of nuclear reactor design.

**436. Process Control and Dynamics.** (3:3:0) F Prerequisite: Math 313, ChEn 376, 478.
Process systems, associated control systems, and instrumentation. Use of Laplace transforms and complex variables.

**451. Chemical Engineering Plant Design and Process Synthesis.** (4:4:0) W Prerequisite: ChEn 476.
Design of chemical engineering machinery; plants and/or processes requiring application of unit operations; chemical process principles; economic analysis. Synthesis and optimization of chemical processes. College Lecture attendance required.

**475. Unit Operations Laboratory 1.** (2:1:6) F, Sp Prerequisite: ChEn 374, 376; Engl 316.
Experimental verification of unit operations design principles; data collection and reduction; report preparation.

**476. Separations.** (3:3:0) F Prerequisite: ChEn 373, 376.
Stage operations, distillation, extraction, and absorption; design applications. College Lecture attendance required.

**477. Unit Operations Laboratory 2.** (2:1:6) W, Sp Prerequisite: ChEn 476, 478. Recommended: ChEn 475.
Experimental verification of unit operations design principles; data collection and reduction; report preparation.

**478. Chemical Reaction Engineering.** (3:3:0) W Prerequisite: ChEn 373 or Chem 461.
Fundamental principles and equations of chemical kinetics and reactor design.

**491. Senior Seminar.** (1:1:0) F, W
Technical presentations by students. One semester required of all majors in the senior year.

**493R. Special Topics—Undergraduate.** (1–3:3:Arr. ea.) Prerequisite: instructor's consent.
Classroom study based on student and faculty interest.

**498R. Undergraduate Research.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: faculty committee approval.
Final report required; 2 hours maximum allowed for degree credit.

**499R. Undergraduate Thesis Research.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su

### 500-Level Graduate Courses (available to advanced undergraduates)

**500. Creative Skills in Chemical Engineering.** (1:1:0) F
Application of creativity and technical knowledge from prior course work to solution of relevant, open-ended problems.

**501. Directed Graduate Studies.** (2:2:0) W Prerequisite: ChEn 531, 533, 535.
Guided preparation for department's comprehensive exams and for formulation of research prospectus.

**510. Principles of Reservoir Engineering.** (3:3:0) On dem. Prerequisite: ChEn 373.
Reservoir and hydrocarbon classification; fluid flow; primary oil and gas recovery mechanisms; enhanced oil recovery.

**518. Biomedical Engineering Principles.** (3:3:0) W Prerequisite: ChEn 376, Math 312.
Application of chemical engineering principles to model physiologic systems and to solve medical problems.

**531. Thermodynamics of Multicomponent Systems.** (3:3:0) F Prerequisite: ChEn 373 or 461.
Fundamental concepts and applications in first and second laws, equilibrium and stability, phase equilibrium, and homogeneous and heterogeneous chemical equilibrium.

**533. Transport Phenomena.** (3:3:0) F Prerequisite: ChEn 476 or concurrent registration. Recommended: Math 323.
Transport mechanisms and coefficients and fundamental field equations for momentum, heat, and mass transport, with application to system design.

**534. Advanced Separations.** (3:3:0) On dem. Prerequisite: ChEn 533, Math 313.
General theory of differential and stagewise diffusional and separation operations, multicomponent distillation, extraction, and absorption; applying this theory to solution of complex problems, including column design and instrumentation.

**535. Kinetics and Catalysis.** (3:3:0) F Prerequisite: ChEn 478.
Theories and principles of chemical kinetics, including heterogeneous catalysis and reactor design.

**536. Digital Process Control.** (2:1:3) Alt. yr. Prerequisite: ChEn 436.
Computer application of advanced control algorithms to chemical processes.

**541. Computer Design Methods.** (2:1:3) Alt. yr. Prerequisite: Math 311, ChEn 376.
Computer-aided design and numerical methods of chemical engineering processes.

**578. Polymer Science and Engineering.** (3:3:0) Sp Prerequisite: Introductory materials engineering course.
Fundamentals of polymer chemistry and physics and their implications in engineering applications. Topics include polymerization chemistry, structure-property relationships, polymer physics, and transport properties.

**583. Nuclear Reactor Engineering.** (3:3:0) On dem. Prerequisite: ChEn 412.
Nuclear reactor design, including heat transfer, energy conversion, reactor materials, instrumentation and control, fuel management, economics, and comparison of principal power system concepts.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Chemical Engineering Faculty

**Professors**

Bartholomew, Calvin H. (1973) BES, Brigham Young U., 1968; MS, PhD, Stanford U., 1970, 1972.
Beckstead, Merrill W. (1977) BS, PhD, U. of Utah, 1961, 1965.
Hedman, Paul O. (1977) BS, U. of Utah, 1957; PhD, Brigham Young U., 1973.
Rowley, Richard L. (1984) BS, Brigham Young U., 1974; PhD, Michigan State U., 1978.
Smoot, L. Douglas (1967) BS, BES, Brigham Young U., 1957, 1957; MS, PhD, U. of Washington, 1958, 1960.
Solen, Kenneth A. (1976) BS, U. of California, Berkeley, 1968; MS, PhD, U. of Wisconsin, Madison, 1972, 1974.
Terry, Ronald E. (1987) BS, Oregon State U., 1971; PhD, Brigham Young U., 1976.

**Associate Professors**

Fletcher, Thomas H. (1991) BS, MS, PhD, Brigham Young U., 1979, 1980, 1983.
Harb, John N. (1988) BS, Brigham Young U., 1983; PhD, U. of Illinois, 1988.
Hecker, William C. (1982) BS, MS, Brigham Young U., 1974, 1975; PhD, U. of California, Berkeley, 1982.
Oscarson, John L. (1974) BES, Brigham Young U., 1968; MS, PhD, U. of Michigan, 1972, 1985.
Pitt, William G. (1987) BS, Brigham Young U., 1983; PhD, U. of Wisconsin, Madison, 1987.
Wilding, W. Vincent (1994) BS, Brigham Young U., 1981; PhD, Rice U., 1985.

**Emeriti**

Barker, Dee H. (1959) BS, PhD, U. of Utah, 1948, 1951.
Hanks, Richard W. (1963) BES, Yale U., 1957; PhD, U. of Utah, 1960.
Pope, Bill J. (1958) BS, U. of Utah, 1947; MS, PhD, U. of Washington, 1948, 1959.

# Chemistry and Biochemistry

Francis R. Nordmeyer, Chair
C-104 BNSN, PO Box 24672, (801) 378-6269

College of Physical and Mathematical Sciences Advisement Center
1116 TMCB, PO box 26539, (801) 378-6270

## Admission to Degree Program

All degree programs in the Department of Chemistry and Biochemistry are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Chemistry is the study of matter, the changes undergone by matter, and the laws that govern the changes. Chemists study atoms as well as the structures and reactions of molecules. They also work to develop simplifying models (theories) that permit the correlation and explanation of observations about matter. Chemical principles are fundamental to the understanding of subjects ranging from the molecular basis of biology to the structure of rocks and minerals. Chemistry is an essential foundation in engineering disciplines, especially in chemical engineering, the electronics field, energy and environmental areas, materials science, pharmacy and medicine, and in virtually all manufacturing areas.

Chemistry is an active science that is vital to human existence. Energy needs, environmental concerns, and requirements for new materials all involve major contributions from chemists. Examples of the diverse areas of interest to chemists include gene splicing and DNA replication (biochemistry), synthesis of medicinal substances (organic chemistry), study of transient complex ions and radicals (inorganic chemistry), spectroscopic study of the energy levels in a molecule (physical chemistry), and analysis of contaminants or trace elements found in the atmosphere or the ocean (analytical chemistry).

Chemistry involves more than test tubes and beakers. It includes working with a variety of equipment and instruments such as mass spectrometers, calorimeters, chromatographs, ultracentrifuges, lasers, X-ray diffractometers, and nuclear magnetic resonance spectrometers.

## Career Opportunities

Graduates in chemistry obtain positions in virtually every industry, and those who have imagination and intellectual curiosity are in particular demand. Chemistry is also an excellent preprofessional course of study for those interested in medicine, dentistry, law, and business. The chemistry curriculum is both rigorous and intellectually rewarding.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Chemistry |
| BA | Honors in Chemistry and University Honors |
| BA | Chemistry Education |
| BS | Chemistry |
| BS | Honors in Chemistry and University Honors |
| BS | Biochemistry |
| BS | Honors in Biochemistry and University Honors |
| BS | Molecular Biology |
| BS | Honors in Molecular Biology and University Honors |
| Minors | Chemistry |
| | Chemistry Education |

For help or information on the undergraduate programs, please contact the department.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Chemistry |
| MS | Biochemistry |
| PhD | Chemistry |
| PhD | Biochemistry |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

**Required High School Preparation**

1. It is recommended that a student complete the following courses in high school:

   3 units of English
   2 units of physical science, chemistry, and physics.
   4 units of mathematics, consisting of 2.5 units of algebra, 1 unit of geometry, and 0.5 unit of trigonometry. This should qualify students to begin college mathematics with Math 112, analytic geometry and calculus.

   Because mathematics provides the foundation for all work in the physical and mathematical sciences, particular attention is paid to high school preparation in this subject.

   To decide which mathematics course should be taken first, contact the Mathematics Department, 292 TMCB, and request a mathematics placement test.

2. All students, especially freshmen and those transferring, should contact the department between March and August each year for advisement about efficient course scheduling and opportunities for student employment.

**Scholarships**

Kenneth W. Brighton and Carl J. Christensen scholarships are available to qualified chemistry majors.

## BA Chemistry (58.5 hours*)

This degree provides an excellent preparation for those individuals in preprofessional programs (e.g., medicine, dentistry, master of business administration, or law), and it also provides strong career alternatives in chemistry.

**Major Requirements**

1. No more than 3 hours of D credit is allowed in major courses.
2. The final 10 hours of required chemistry credit must be taken at BYU.
3. Complete the following:
   Chem 111H, 112, 226, 227, 351M, 352M, 354, 391, 461, 462, 464, 501.
4. Complete the following:
   Math 112, 113, 343.
   Phscs 121, 122, 214, 221.
5. Select one course from the following:
   CS 130, 142.
   ChEn 283.
6. After consulting with an advisor, select 3 hours from the following:
   Chem 455, 481, 497R, 499R, 514, 518, 523, 524, 552, 553, 561, 563, 564, 565, 569, 594R, 596R.

**Recommended Courses**

Biol 130.
Math 344.
RelC 491, 492.

**Note:** Supporting courses suggested by most medical and dental schools are found in the Preprofessional Programs section of this catalog. The more rigorous chemistry, mathematics, and physics courses required for the chemistry majors will satisfy the minimum requirements listed there. Elective courses in biochemistry and in biological science are especially pertinent to these preprofessional programs.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Chemistry and University Honors

For information on this degree program contact the department.

See also the University Honors Education section of this catalog.

## BA Chemistry Education (80.5–87.5 hours,* including certification hours)

This degree provides preparation for professional high school teaching. High school chemistry teachers will find opportunities available and will know the satisfaction of guiding good students into essential and rewarding careers. Students should work closely with both the Department of Chemistry and Biochemistry and the College of Education Advisement Center and Certification Office.

**Major Requirements**

1. No more than 3 hours of D credit is allowed in major courses.
2. The final 10 hours of required chemistry credit must be taken at BYU.
3. Contact the Education Advisement Center for entrance requirements into the certification program.
4. A teaching minor is not required for certification. However, it is strongly recommended.
5. Complete the following:
   Chem 111H, 112, 226, 227, 351M, 391, 501.
6. Select one course from the following:
   Chem 461, 367.
7. Select one course from the following:
   Chem 352M, 462.
8. Select one course from the following:
   Chem 481.
   Math 343.
   **Note:** Chem 352 is prerequisite to 481. Chem 481 will also satisfy the advanced course requirements in item 12 below.
9. Complete the following:
   Biol 130.
   Math 112, 113.
   Phscs 121, 122.
10. Select one of the following four options:
    a. Phscs 214, 221.
    b. Geol 111.
    c. Botny-Zool 250.
    d. Math 302, Stat 341.
11. Select one course from the following:
    ChEn 283.
    CS 130, 142.
12. After consulting with an advisor, select 2 hours from the following:
    Chem 354, 464, 481, 497R, 499R, 514, 523, 552, 553, 561, 563, 564, 565, 569, 594R, 596R.
    Phil 423.
13. Complete the Professional Education Component (29–30 hours): see the Secondary Education section of this catalog for certification requirements.

**Recommended Course**

Math 344.

*Hours include courses that may fulfill GE or university requirements.

## BS Chemistry (71.5 hours*)

This is the preferred degree for chemistry majors (approved by the American Chemical Society) and those who desire an advanced degree (MS, PhD) in chemistry.

**Major Requirements**

1. No more than 3 hours of D credit is allowed in major courses.
2. The final 10 hours of required chemistry credit must be taken at BYU.
3. Complete the following:
   Chem 111H, 112, 226, 227, 351M, 352M, 354, 391, 455, 461, 462, 464, 501, 514, 523.
4. Complete 1 hour of the following:
   Chem 594R.
5. Complete the following:
   Math 112, 113, 343.
   Phscs 121, 122, 214, 221.
6. Select one course from the following:
   CS 130, 142.
   ChEn 283.
7. After consulting with an advisor, select 6 hours from the following:
   Chem 481, 497R, 499R, 518, 524, 552, 553, 561, 563, 564, 565, 569, 582, 584, 596R.

   **Note 1:** Only 3 hours of 497R plus 499R will apply to the major.

   **Note 2:** With approval, certain other 300-level and above courses in the allied fields of physics, statistics, engineering, and biology may be taken to satisfy this requirement. Because of the importance of biochemistry, polymer chemistry, and materials science, courses in those areas should receive serious consideration by chemistry students.

**Recommended Courses**

Biol 130.
Math 344.
RelC 491, 492.

**Note:** Elective courses, beyond the requirements above, should be selected in consultation with an advisor. The following should be given consideration: advanced chemistry, foreign languages (especially French, German, Japanese, and Russian), biological sciences, computer science, engineering, mathematics, physics, statistics.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Chemistry and University Honors

For information on this degree program contact the department.
See also the University Honors Education section of this catalog.

## BS Biochemistry (76.5 hours*)

Students preparing for health-related fields (medicine, dentistry, veterinary medicine) or those who desire an advanced degree (MS, PhD) in biochemistry, biology, or the health sciences receive excellent preparation from this degree program.

**Major Requirements**

1. No more than 3 hours of D credit is allowed in major courses.
2. The final 10 hours of required chemistry credit must be taken at BYU.
3. Complete the following:
   Chem 111H, 112, 226, 227, 351M, 352M, 354, 391, 461, 464, 468, 481, 501, 582, 584.
4. Complete 1 hour of the following:
   Chem 594R.
5. Complete the following:
   Math 112, 113, 343.
   Phscs 121, 122, 214, 221.
   Biol 130.
   Zool 341.
6. Select one course from the following:
   CS 130, 142.
   ChEn 283.
7. After consulting with an advisor, select 3 hours from the following:
   Chem 455, 497R, 499R, 514, 518, 523, 524, 552, 553, 561, 563, 564, 565, 569, 586, 596R.

   **Note:** With prior approval, many 400- and 500-level courses in botany, microbiology, and zoology will fill this requirement.

**Recommended Courses**

Math 344.
RelC 491, 492.

**Note:** Supporting courses suggested by most medical and dental schools are found in the Preprofessional Programs section of this catalog. The more rigorous chemistry, mathematics, and physics courses required for the chemistry majors will satisfy the minimum requirements listed there. Elective courses in biochemistry and in biological science are especially pertinent to these preprofessional programs.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Biochemistry and University Honors

For information on this degree program contact the department.
See also the University Honors Education section of this catalog.

## BS Molecular Biology (72.5 hours*)

This degree represents an excellent preparation for the health-related fields of medicine, dentistry, and veterinary medicine, and for students who intend to pursue an advanced degree (MS, PhD) in biology, molecular biology, biochemistry, or the health sciences. The rigorous chemistry, mathematics, and physics courses required for the chemistry majors will satisfy the minimum requirements listed in the Preprofessional Programs section of this catalog.

(A molecular biology degree is also offered by several departments in the College of Biology and Agriculture based on a common core curriculum. The chemistry degree provides an excellent preparation in molecular biology because of its additional emphasis in chemistry and biochemistry, which are fundamental components of modern molecular biology.)

**Major Requirements**

1. No more than 3 hours of D credit is allowed in major courses.
2. The final 10 hours of required chemistry credit must be taken at BYU.
3. Complete the following:
   Chem 111H, 112, 223, 351M, 352M, 354, 367, 391, 481, 501, 582, 584, 586.
4. Complete the following:
   Math 112, 113.
   Phscs 121, 122, 221.
   Biol 130.
   Zool 341, 342.
   Mcbio 351 (3 hours).
5. Select one course from the following:
   CS 130, 142.
   ChEn 283.
6. After consulting with an advisor, select 3 hours from the following:
   Chem 455, 497R, 499R, 514, 518, 523, 524, 552, 553, 561, 563, 564, 565, 569, 594R, 596R.

**Recommended Courses**

RelC 491, 492.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Molecular Biology and University Honors

For information on this degree program contact the department.

See also the University Honors Education section of this catalog.

## Minor Chemistry (18–20 hours*)

1. Select one of the following options:
   **Either** Chem 111H, 112, 226
   **Or** Chem 105, 106, 107, 223.
2. Select one of the following options:
   **Either** Chem 351, 352
   **And** Chem 353 (2 hours) or 354
   **Or** Chem 461, 462, 464.

**Note:** When all of the chemistry credit required for a minor is transferred from another school, at least one course in chemistry must be taken at BYU with a grade of C or better—or the student may request to take a standardized national exam covering advanced material required for the minor. Chemistry programs at some schools have been evaluated, and their credit is acceptable for the minor. No more than one course with a grade in the D range will be allowed.

*Hours include courses that may fulfill GE or university requirements.

## Minor Chemistry Education (16–18 hours*)

1. Select one of the following options:
   **Either** Chem 111H, 112, 351
   **Or** Chem 105, 106, 107, 351.
2. Select one course from the following:
   Chem 223, 226.
3. Select one course from the following:
   Chem 367, 461.

**Note:** When all of the chemistry credit required for a minor is transferred from another school, at least one course in chemistry must be taken at BYU with a grade of C or better—or the student may request to take a standardized national exam covering advanced material required for the minor. Chemistry programs at some schools have been evaluated, and their credit is acceptable for the minor. No more than one course with a grade in the D range will be allowed.

*Hours include courses that may fulfill GE or university requirements.

## Chemistry and Biochemistry (Chem)

### Undergraduate Courses

**100. Elementary College Chemistry.** (3:3:0) On dem. Independent Study also. Recommended: PhyS 100 or equivalent.
Structure of matter and the chemical consequences of that structure. For nonscience and nonmedical majors.

**101. Introductory General Chemistry.** (3:3:0) F, W, Sp, Su Prerequisite: Math 97 or equivalent.
Atomic and molecular structure, periodic relationships, states of matter, chemical reactions and stoichiometry, acids and bases. Primarily for nonscience majors who require a broad introduction to general chemistry.

**103. Introductory Chemistry Laboratory.** (1:0:3) W Prerequisite: Chem 101 or equivalent.
Introductory laboratory techniques required for simple classical experiments in chemistry. Fee.

**105. General College Chemistry.** (4:4:1) F, W, Sp, Su Prerequisite: Math 110 (or equivalent) or concurrent registration.
Atomic and molecular structure, periodic properties, states of matter, chemical bonding, stoichiometry, oxidation- reduction, kinetic-molecular theory, solutions and equilibria. Primarily for students in engineering and the biological sciences. Tutorial included.

**106. General College Chemistry.** (3:3:1) F, W, Sp, Su Prerequisite: Chem 105 or equivalent.
Continuation of Chem 105. Tutorial included.

**107. General College Chemistry Laboratory.** (1:0:3) F, W, Sp, Su Prerequisite: Chem 106 or concurrent registration.
Chemical properties, chemical reactions, collection and interpretion of data, preparation of reports. Required for most students needing one year of general chemistry. Fee.

**111. Principles of Chemistry.** (3:3:1) F Prerequisite: Math 110 (or equivalent) or concurrent registration. Strongly recommended: high school chemistry and physics.
Taught simultaneously with Chem 111H but does not include laboratory. Stoichiometry, kinetic-molecular theory, thermodynamics, states of matter, solutions and equilibria, electrochemistry, structure and bonding, chemical reactions, kinetics. Tutorial included.

**111H. Honors Principles of Chemistry.** (4:3:4) F Prerequisite: Math 110 (or equivalent) or concurrent registration. Strongly recommended: high school chemistry and physics.
Stoichiometry, kinetic-molecular theory, thermodynamics, states of matter, solutions and equilibria, electrochemistry, structure and bonding, chemical reactions, kinetics. For chemistry majors. Laboratory and tutorial included. Fee.

**112. Principles of Chemistry.** (3:3:2) W Prerequisite: Chem 111, 111H, or equivalent.
Continuation of Chem 111 or 111H. Tutorial included.

**152. Introductory Organic Chemistry.** (2:2:0) F, W, Sp, Su Prerequisite: Chem 101 or adequate high school preparation in chemistry.
Principles of structure and reactivity, properties and reactions of compound classes, syntheses.

**223. Quantitative and Qualitative Analysis.** (4:2:6) F, Sp Prerequisite: Chem 106 or equivalent.
Principles of chemical equilibrium, quantitative chemical measurements, and qualitative detection of selected chemical species. Primarily for majors in molecular biology and the life sciences. Others should take Chem 226. Fee.

**226. Introductory Analytical Chemistry.** (3:1:6) F, W Prerequisite: Chem 106 or concurrent registration in 112.
Principles and techniques of making precise chemical measurements, with application to quantitative and qualitative analysis. Fee.

**227. Introductory Analytical Chemistry.** (3:1:6) F, Sp Prerequisite: Chem 226 and approved computer programming course.
Continuation of Chem 226, plus introductory instrumental methods and computer applications. Fee.

**281. Introductory Physiological Chemistry.** (3:3:0) F, W, Sp, Su Prerequisite: Chem 152 or equivalent.
Relationships between chemical structure and physiological function, overall correlation of metabolism. Students with more extensive preparation should register for Chem 481.

**351. Organic Chemistry.** (3:3:0) F, W, Sp Prerequisite: Chem 107 or 226 or equivalent.
Chemical bonds and molecular structure, conformation and configuration, functional classes, reactions and mechanisms, syntheses. Primarily for majors in chemistry, chemical engineering, and the biological sciences.

**351M. Organic Chemistry—Majors.** (3:3:0) F Prerequisite: Chem 107 or 226 or equivalent.
Chemical bonds and molecular structure, conformation and configuration, functional classes, reactions and mechanisms, syntheses.

**352. Organic Chemistry.** (3:3:0) F, W, Sp, Su Prerequisite: Chem 351 or equivalent.
Continuation of Chem 351.

**352M. Organic Chemistry—Majors.** (3:3:0) W Prerequisite: Chem 351M or equivalent.
Continuation of Chem 351M.

**353. Organic Chemistry Laboratory— Nonmajors.** (1–2:0:6) F, W, Sp, Su Prerequisite: Chem 352 or concurrent registration.
Physical and chemical properties, isolation and purification, characterization, syntheses. For predentistry, premedicine, and other majors who do not intend to take Chem 455. Fee.

**354. Organic Chemistry Laboratory— Majors.** (2:0:6) F, W, Sp Prerequisite: Chem 352 or concurrent registration.
Physical and chemical properties, manipulative skills, isolation and purification, characterization and identification, syntheses. Fee.

**367. Physical Chemistry for Molecular Biology.** (3:3:0) F Prerequisite: Chem 352, Math 112 or 119, Phscs 106 or 221.
Principles of chemical thermodynamics and kinetics with applications to biological systems; brief introduction to quantum mechanics and spectroscopy and to transport properties. For majors in molecular biology.

**391. Technical Writing Using Chemical Literature.** (3:3:0) W, Sp Prerequisite: Chem 227, 352.
Intensive technical writing course based on chemical literature sources. Fulfills GE Advanced Writing requirement.

**455. Synthesis and Qualitative Organic Analysis.** (3:1:6) F Prerequisite: Chem 354; 501 or concurrent registration.
Laboratory course emphasizing isolation, purification, and characterization of major and minor products from selected syntheses. For chemistry and other science majors. Fee.

**461. Physical Chemistry.** (3:3:0) F, W Prerequisite: Chem 223 or 226; Math 343, Phscs 221, or concurrent registration.
States of matter, thermodynamics and equilibria, kinetic-molecular theory, quantum mechanics, group theory, atomic and molecular structure, spectroscopy.

**462. Physical Chemistry.** (3:3:0) W, Sp Prerequisite: Chem 461.
Continuation of Chem 461.

**464. Physical Chemistry Laboratory.** (2:0:6) F, W, Sp Prerequisite: Chem 227; 461, 501, or concurrent registration.
Precise data collection for classical experiments, computer manipulation of data, report preparation. Course may be continued for a second semester or term. Fee.

**468. Biophysical Chemistry.** (3:3:0) W Prerequisite: Chem 461; 481 or concurrent registration.
Application of physical chemistry to biological systems. Thermodynamics, statistical mechanics, quantum mechanics, biophysical experimental techniques. For biochemistry (BS) majors and those interested in the health professions or biochemistry.

**481. Biochemistry.** (4:4:1) F, W, Sp Prerequisite: Chem 352 or equivalent.
First-semester biochemistry. Molecular components of cells, chemical structure and function, enzymes, metabolic transformations, photosynthesis. For chemistry majors or students in biological sciences who contemplate pursuing advanced degrees, including medicine. Tutorial included.

**497R. Undergraduate Special Problems.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent and Chem 501 or concurrent registration or special safety training.
Undergraduate research experience emphasizing student development.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent and Chem 501 or concurrent registration or special safety training.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501. Chemical Handling and Safe Laboratory Practices.** (0.5:0.5:0) F, Sp
Survey of appropriate methods in handling hazardous materials and disposing of waste; legal rights and requirements; safety in chemistry laboratory work.

**514. Inorganic Chemistry.** (3:3:0) W Prerequisite: Chem 461; 462 or 468.
In-depth treatment of theoretical concepts in inorganic chemistry and the descriptive chemistry of some of the elements.

**518. Inorganic Synthesis.** (2:0:6) On dem. Prerequisite: Chem 501 or concurrent registration; Chem 514.
Syntheses that demonstrate a variety of techniques and a range of inorganic materials.

**523. Instrumental Analysis.** (3:1:6) F Prerequisite: Chem 464; Chem 501 or concurrent registration.
Modern instrumental methods and basic principles of instrumentation. Laboratory experience with a variety of instruments. Fee.

**524. Analytical Chemistry.** (2:2:0) Prerequisite: Chem 523 or equivalent.
Advanced theory of measurements and techniques in chemical analysis.

**552. Advanced Organic Chemistry.** (3:3:0) F Prerequisite: Chem 351, 352, 461, 462.
Physical aspects of organic chemistry; mechanisms, reaction intermediates, bonding, stereochemical and stereoelectronic effects, molecular orbital theory, Lewis acidity and basicity.

**553. Advanced Organic Chemistry.** (3:3:0) W Prerequisite: Chem 351, 352.
Synthetic aspects of organic chemistry; oxidations, reductions, concerted reactions, stereoselectivity, synthetic equivalents, protecting groups. Examples of natural product total synthesis.

**561. Chemical Thermodynamics.** (3:3:0) F Prerequisite: Chem 461, 462.
Development of the principles of chemical thermodynamics, including laws, pure materials, mixtures, equilibria, and elementary statistical mechanics.

**563. Reaction Kinetics.** (3:3:0) W alt. yr. Prerequisite: Chem 461, 462.
Theoretical aspects of chemical kinetics in the gas phase and in solution. Rates and mechanisms in solution, rapid reactions, and other topics.

**564. Nuclear Chemistry and Radiochemistry.** (2–3:3:0) W alt. yr. Prerequisite: Chem 461, 462.
Introduction to nuclear structure, radioactivity, nuclear spectroscopy, and nuclear reactions, emphasizing applications in chemistry.

**565. Introduction to Quantum Chemistry.** (3:3:0) F Prerequisite: Chem 461, 462.
Introduction to physical and mathematical aspects of quantum theory, emphasizing application of the Schrodinger wave equation to chemical systems.

**569. Fundamentals of Spectroscopy.** (3:3:0) W Prerequisite: Chem 461; 462 or 468; Chem 523 or equivalent.
Atomic and molecular spectroscopy and application of group theoretical concepts. Types of experiments and interpretation of data.

**582. Biochemistry of the Nucleic Acids.** (3:3:0) W Prerequisite: Chem 481.
Second-semester biochemistry. Nucleic acid biochemistry and molecular biology: nucleotide metabolism, chromosome and chromatin structure, DNA structure and replication, RNA transcription and gene expression, protein synthesis and regulation, eukaryotic gene systems.

**584. Biochemistry Lab.** (2:0:6) W Prerequisite: Chem 481.
Modern research instrumentation and current biochemical research procedures. Enzyme isolation and characterization, protein sequencing, nucleic acid manipulations. Fee.

**586. Recombinant DNA.** (2:0:6) W Prerequisite: Chem 481.
Laboratory course covering major techniques involved in isolation, amplification, and cloning of recombinant DNA. Variety of cloning systems and methods of identification introduced. Fee.

**594R. General Seminar.** (0.5:1:0 ea.) F, W
Research topics presented by faculty and visiting scientists. Required every semester in residence of all senior BS majors and graduate students in chemistry and biochemistry.

**596R. Special Topics in Chemistry.** (1–3:3:0 ea.) On dem. Prerequisite: Chem 351, 352; Chem 367 or 461.
Subjects that may be offered include:
—Atmospheric Chemistry
—Ion Chromatography
—Organic Spectroscopic Identification

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Chemistry and Biochemistry Faculty

**Professors**

Bills, James L. (1963) BS, U. of Utah, 1958; PhD, Massachusetts Inst. of Technology, 1963.
Boerio-Goates, Juliana (1981) BA, Seton Hill Coll., 1975; MS, PhD, U. of Michigan, 1977, 1979.
Bradshaw, Jerald S. (1966) BS, U. of Utah, 1955; PhD, U. of California, Los Angeles, 1963.
Dalley, Nelson Kent (1968) BS, MS, Brigham Young U., 1960, 1964; PhD, U. of Texas, Austin, 1968.
Eatough, Delbert J. (1971) BS, PhD, Brigham Young U., 1964, 1967.
Farnsworth, Paul B. (1981) BS, Brigham Young U., 1977; PhD, U. of Wisconsin, Madison.
Goates, Steven R. (1981) BS, Brigham Young U., 1976; MS, PhD, U. of Michigan, 1977, 1981.
Grant, David M. (1986) BS, PhD, U. of Utah, 1954, 1958.
Hansen, Lee Duane (1972) BS, PhD, Brigham Young U., 1962, 1965.
Lamb, John D. (1985) BS, PhD, Brigham Young U., 1971, 1978.
Lee, Milton L. (1976) BA, U. of Utah, 1971; PhD, Indiana U., 1975.
Mangelson, Nolan F. (1969) AS, Snow Coll., 1959; BS, Utah State U., 1961; MS, Brigham Young U., 1963; PhD, U. of California, Berkeley, 1967.
Mangum, John Harvey (1963) BS, MS, Brigham Young U., 1957, 1959; PhD, U. of Washington, 1963.
Nordmeyer, Francis R. (1972) BA, Wabash Coll., 1961; MA, Wesleyan U., 1964; PhD, Stanford U., 1967.
Ott, J. Bevan, Associate Academic Vice President—Research and Graduate Studies (1960) BS, MS, Brigham Young U., 1955, 1956; PhD, U. of California, Berkeley, 1959.
Owen, Noel L. (1987) BSc, U. of Wales, 1960; PhD, Cambridge U., England, 1964; DSc, U. of Wales, 1983.
Pugmire, Ronald J. (1986) BS, Idaho State U., 1959; PhD, U. of Utah, 1966.
Robins, Morris J. (1986) BA, U. of Utah, 1961; PhD, Arizona State U., 1965.
Smith, Marvin A. (1966) BS, Utah State U., 1960; MS, PhD, U. of Wisconsin, Madison, 1962, 1964.
Thorne, James M. (1966) BA, Utah State U., 1961; PhD, U. of California, Berkeley, 1966.
Watt, Gerald D. (1989) BA, PhD, Brigham Young U., 1962, 1966.
Woolley, Earl M. (1970) BS, PhD, Brigham Young U., 1966, 1969.

**Associate Professors**

Berges, David A. (1994) BS, Evansville Coll., 1963; PhD, Indiana U., 1967.
Elton, Terry S.(1995) BS, Weber State U., 1981; PhD, Washington State U., 1986.
Fleming, Steven A. (1985) BS, U. of Utah, 1978; PhD, U. of Wisconsin, Madison, 1984.
Shirts, Randall B. (1991) BS, Brigham Young U., 1972; AM, PhD, Harvard U., 1978, 1979.
Simmons, Daniel L. (1989) BS, MS, Brigham Young U., 1978, 1980; PhD, U. of Wisconsin, Madison, 1986.

Zimmerman, S. Scott (1978) BS, Brigham Young U., 1969; PhD, Florida State U., 1973.

**Assistant Professors**

Dearden, David V. (1994) BS, Brigham Young U., 1983; PhD, California Inst. of Technology, 1989.

Harrison, Roger G. (1995) BS, Utah State U., 1986; PhD, U. of Utah, 1993.

Kaspar, Roger L.(1995) BS, MS, Brigham Young U., 1985, 1986; PhD, U. Of Washington, 1991.

Peterson, Matt A.(1995) BS, Utah State U., 1987; PhD, U. Of Arizona, 1992.

Savage, Paul B. (1995) BS, Brigham Young U., 1988; PhD, U. of Wisconsin, 1993.

Willardson, Barry M. (1996) BA, Brigham Young U., 1984; PhD, Purdue U., 1990.

**Senior Lecturer**

Cannon, John Francis (1970) BS, PhD, Brigham Young U., 1965, 1969.

**Lecturers**

Giddings, Luther D. (1995) BS, U. of Utah, 1985; PhD, Ohio State U., 1993.

Hinshaw, Barbara C. (1989) BA, Westminster Coll., 1966; MS, U. of Utah, 1969.

**Emeriti**

Banks, Willis M. (1966) BS, Brigham Young U., 1948; MS, Colorado Coll., 1967.

Blackham, Angus Udell (1952) BA, Brigham Young U., 1949; MA, PhD, U. of Cincinnati, 1950, 1952.

Broadbent, H. Smith (1946) BS, Brigham Young U., 1942; PhD, Iowa State U. of Science and Technology, 1946.

Butler, Eliot A. (1956) BS, PhD, California Inst. of Technology, 1952, 1956.

Castle, Raymond N. (1970) BS, U. of Idaho, 1939; MA, PhD, U. of Colorado, 1941, 1944.

Cluff, Coran L. (1960) BS, Northern Arizona U., 1952; MS, PhD, U. of Michigan, 1955, 1961.

Goates, J. Rex (1947) BS, Brigham Young U., 1942; PhD, U. of Wisconsin, Madison, 1947.

Gubler, Clark J. (1958) BA, Brigham Young U., 1939; MA, Utah State U., 1941; PhD, U. of California, Berkeley, 1945.

Hall, H. Tracy (1955) BS, MS, PhD, U. of Utah, 1942, 1943, 1948.

Hawkins, Richard T. (1959) BA, Brigham Young U., 1951; PhD, U. of Illinois, 1959.

Izatt, Reed M. (1956) BS, Utah State U., 1951; PhD, Pennsylvania State U., 1954.

Nelson, K. LeRoi (1956) BS, Utah State U., 1948; PhD, Purdue U., 1952.

Paul, Edward G. (1965) BS, PhD, U. of Utah, 1958, 1962.

Snow, Richard L. (1957) BS, PhD, U. of Utah, 1953, 1957.

Swensen, Albert D. (1947) BA, MA, Brigham Young U., 1937, 1938; PhD, Louisiana State U., New Orleans, 1941.

Vernon, Leo P. (1970) BA, Brigham Young U., 1948; PhD, Iowa State U. of Science and Technology, 1951.

Wilson, Byron J. (1965) BS, Idaho State U., 1955; MA, Southern Illinois U. 1958; PhD, U. of Washington, 1961.

## Chinese

See Asian and Near Eastern Languages.

## Church History and Doctrine

See Religious Education.

# Civil and Environmental Engineering

T. Leslie Youd, Chair
368-C CB, PO Box 24081, (801) 378-2811

College of Engineering and Technology Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

The degree programs in the Department of Civil and Environmental Engineering carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Civil engineering, more than any other field of engineering, serves the basic needs of society through construction and maintenance of the public works infrastructure. Civil engineers build upon a base of science, mathematics, and fundamental engineering concepts to plan, design, construct, manage and maintain infrastructure systems for water, transportation, and civil structures. In these activities civil engineers are responsible to meet societal expectations for economy and utility, public safety, and protection of the environment. To accomplish these goals civil engineers are expected to have additional knowledge in social, economic, and managerial sciences and to be able to communicate well with the public, clients, and specialists in cooperating disciplines.

The BYU Civil and Environmental Engineering Department prepares students for professional involvement in water resources, geotechnical (soils), transportation, structural, and environmental engineering. Students may obtain a bachelor of science degree, a master's degree, and/or a doctoral degree. The bachelor's program, which leads to a degree in civil engineering, is accredited by the Accreditation Board for Engineering and Technology (ABET). This national stamp of approval assures graduates that their degree will be duly recognized nationwide and that it serves as the first step toward professional registration.

## Career Opportunities

As a consequence of the broad nature of this profession, civil engineers become involved at every level of government and in the private sector. Many civil engineers hold positions in national, state, or local government agencies. Others work in various industrial and engineering organizations both large and small. Because the very nature of civil and environmental engineering encourages private practice, many civil engineers establish their own firms. Since civil engineers work so closely with every level of society, it is important that they be professionally licensed. This licensure, designed to protect the public interest and safety, is a privilege extended by each state to engineers who demonstrate their qualifications through examination and performance. Civil engineers so licensed may use the title Registered Professional Engineer, a mark of competence and professional stature.

Job opportunities in civil and environmental engineering continue to be very good. Essentially all graduates are employed in engineering. Civil engineering is also an excellent preparation for advanced education and work in other professional areas such as law, medicine, and business.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Civil Engineering
Emphasis (optional):
International

For help or information on the undergraduate programs, please see the department.

## Graduate Programs and Degrees

MS Civil Engineering
MEM Engineering Management
PhD Engineering

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

The Civil and Environmental Engineering Department requires acceptance into the professional program at the beginning of the junior year. See your advisement center for details.

Qualified students from junior colleges with adequate preengineering programs can normally complete the BS degree in two additional years. Students who transfer into the department from other universities or from other departments at BYU will be placed in the civil and environmental engineering program according to an evaluation of completed work. Prospective transfer students should contact the department as soon as possible so that any variations can be accommodated with a minimum loss of time.

A maximum of 9 credit hours with D grades are allowed in Civil and Environmental Engineering Department classes. Continued enrollment in professional program courses or clearance for graduation will be denied until D credits are reduced to 9 hours.

**Integrated Master's Program.** Although abundant professional employment is available with a bachelor's degree, professional opportunities are markedly improved by completing a master's degree.

At the end of the sophomore year or during the junior year of the civil engineering curriculum, those who have been accepted to the professional program and who desire to obtain a master's degree in civil engineering (MS) may enter the integrated master's program. In this program students may work toward both the bachelor's and master's degrees concurrently. The BS degree may be received before or simultaneously with receiving the MS degree.

Applicants to the integrated program must have a cumulative GPA of 2.5 or higher. All credit to be counted toward the master's degree must carry a cumulative GPA of 3.0 or better. When students are within 30 credit hours of completing the graduate degree, they must also apply for and be admitted to graduate school.

**Professional Engineer Registration.** The Civil and Environmental Engineering Department encourages graduates to become Registered Professional Engineers. General qualifications for becoming registered are explained in the College of Engineering and Technology section of this catalog. This status is vital to engineering practice in the public sector and to much consulting work. The civil and environmental engineering program gives adequate preparation for graduates to successfully complete the Fundamentals of Engineering (FE) examination, an important step in becoming registered. Students who wish to strengthen their preparation for the FE exam should select the required engineering science course with this need in mind.

## BS Civil Engineering (93 hours*)

**Major Requirements**

1. Complete the following preprofessional courses:
   CEEn 100A,B, 103.
   Math 113.
   MeEn 173.
   Chem 105.
2. Select one course from the following:
   Chem 106.
   Phscs 221.
3. Complete the following professional courses:
   CEEn 113, 200A,B, 203, 204, 205, 270, 321, 332, 341, 351, 361, 370, 391A,B, 491A,B, 495.
4. Select one course from the following:
   CEEn 423, 424.
5. Select one course from the following:
   CEEn 431, 433.
6. Complete the following supporting courses:
   Engl 316.
   Geol 330.
   Math 112, 312, 313.
   Phscs 122.
   RelC 491, 492.
7. Select one course from the following engineering science electives:
   ChEn 273, 378.
   ECEn 301R.
   MeEn 321, 401.
8. Select 9 hours of technical electives including 3 hours of approved design content. Consult the department. For recommended courses, consult your MAP.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (103.5–105.5 hours*)

**Emphasis Requirements**

1. Complete the requirements for the civil engineering program as outlined above.
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. In consultation with the college advisement center, select a foreign literature course or a classical civilization course.
   **Or** select one course from the following:
   FnArt 270.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
   VAHis 260.
5. An international "live-in" experience is required. It may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.
6. Write a senior paper.

**Recommended**

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Civil and Environmental Engineering (CEEn)

### Undergraduate Courses

**100A,B. Introduction to Civil and Environmental Engineering.** (0.5:1:0 ea.) F, W

Activities of civil engineering; principles and methods involved in solving civil engineering problems. College Lecture attendance required.

**103. Engineering Mechanics—Statics.** (2:2:0) F, W, Sp

Independent Study also. Prerequisite: Math 113 or concurrent registration.

Concepts of mechanics: force systems in equilibrium, resultants, friction, centroids, utilization of vector algebra.

**113. Engineering Measurements.** (3:1:6) F, Sp Prerequisite: Math 111, MeEn 173.
Measurement of horizontal and vertical distances and angles to locate engineering projects including profiles, plane and topographical mapping, site layout, and earthwork.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**200A,B. Introduction to Civil and Environmental Engineering.** (0.5:1:0 ea.) F, W
Activities of civil engineering; principles and methods involved in solving civil engineering problems. College Lecture attendance required.

**203. Engineering Mechanics—Mechanics of Materials.** (3:3:0) F, W, Su Independent Study also. Prerequisite: Phscs 121 or CEEn 103.
Fundamental concepts of elastic stress and strain relations; cylinders and spheres; torsion; beam theory, including bending stresses; deflections; and two-dimensional elastic theory.

**204. Engineering Mechanics—Dynamics.** (3:3:0) F, W; Sp even yr.; Su odd yr. Independent Study also. Prerequisite: CEEn 103 or Phscs 121.
Concepts of dynamics applied to particles, systems of particles, rigid bodies, vibration systems, and nonrigid particles systems.

**205. Structural Engineering Materials.** (3:2:3) F, W Prerequisite: CEEn 203, 270.
Characterization of structural engineering materials, including laboratory testing.

**270. Computational Methods.** (3:3:0) F, Sp Prerequisite: Math 113 or concurrent registration.
Use of spread sheets, C-programming, and other computer tools for solution of civil engineering problems.

**302. Structures and Strength of Materials Fundamentals.** (4:4:0) F Prerequisite: Phscs 105, CEEn 103.
Structural mechanics and strength of materials for soils, woods, concrete, and steel applied to practical construction situations. For nonmajors only.

**321. Structural Analysis.** (3:3:0) F; W even yr.; Sp odd yr.; Su even yr. Prerequisite: CEEn 203, 270.
Loads on buildings and bridges; influence line diagrams; approximate analysis of frames; analysis of deflections; moment distribution for beams and frames; introduction to computer analysis of structures.

**332. Hydraulics and Fluid Flow Theory.** (3:2:3) F, W; Sp odd yr.; Su even yr. Independent Study also. Prerequisite: CEEn 270.
Fluid properties, fluid statics and dynamics, viscous flow, boundary layers, concepts of pipe and open-channel flow.

**341. Elementary Soil Mechanics.** (3:2:3) F, W Prerequisite: CEEn 203, 332, Geol 330, or instructor's consent.
Determination of stresses in soils, soil strength, consolidation, and settlement. Applications in fluid flow, lateral earth pressure, bearing pressure, and slope stability.

**351. Environmental Engineering.** (3:3:0) W, Sp Prerequisite: Chem 105.
Environmental concerns, problems, and evaluation methodology; pollution control and engineering management approaches.

**361. Highway Engineering.** (3:2:3) F, Sp Prerequisite: CEEn 113.
Highway planning, geometric design, traffic engineering, highway materials, rigid and flexible pavement design.

**370. Civil Engineering Systems.** (3:3:0) F, W Prerequisite: CEEn 203, 270, 332, Math 313.
System analysis and optimization including uncertainty and economic evaluation, with emphasis on civil engineering design procedure and applications.

**391A,B. Civil and Environmental Engineering Seminar.** (0.5:1:0 ea.) F, W
Technical and professional activities in civil engineering. College Lecture attendance required.

**423. Structural Steel Design.** (3:3:0) W; Sp odd yr.; Su even yr. Prerequisite: CEEn 205, 321.
Elastic and plastic design concepts, stress analysis and design of beams, stiffened girders, and tension and compression members and their connections.

**424. Reinforced Concrete Design.** (3:3:0) F; Sp even yr.; Su odd yr. Prerequisite: CEEn 321.
Theory and design of reinforced concrete, including columns, beams, slabs, and footings; elastic and ultimate-strength methods of analysis.

**431. Hydrology.** (3:2:3) W; Sp even yr.; Su odd yr. Prerequisite: CEEn 332.
Waters of the earth, their occurrence, circulation, and distribution. Relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.

**433. Hydraulic Engineering.** (3:3:0) F; Sp odd yr.; Su even yr. Prerequisite: CEEn 332.
Application of fluid mechanics principles to analysis and design of hydraulic structures and systems.

**491A,B. Civil and Environmental Engineering Seminar.** (0.5:1:0 ea.) F, W
Technical and professional activities in civil engineering. College Lecture attendance required.

**493R. Civil and Environmental Engineering Practicum.** (1–18:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**495. Communication in Civil and Environmental Engineering.** (1:0:3) F, W Prerequisite: Engl 316.
Developing oral and writing skills related to civil engineering. Library research resulting in term paper and oral presentation required.

**498R. Directed Studies in Civil and Environmental Engineering.** (1–18:Arr.:Arr. ea.) Prerequisite: instructor's consent.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. (CEEn-MeEn) Design and Materials Applications.** (3:3:0) W Prerequisite: MeEn 372 or CEEn 321.
Applied and residual stress; materials selection; static, impact, and fatigue strength; fatigue damage; surface treatments; elastic deflection and stability—all as applied to mechanical design.

**501. (CEEn-MeEn) Stress Analysis and Design of Mechanical Structures.** (3:3:0) Sp Prerequisite: CEEn 321 or MeEn 372.
Stress analysis and deflection of structures; general bending and torsion with computer applications to mechanical and aerospace structure design.

**502. (CEEn-MeEn) Plasticity and Fracture Mechanics.** (3:3:0) Su on dem. Prerequisite: MeEn-CEEn 503.
Continuum theory of plasticity, linear elastic fracture mechanics, introduction to structured continuum theories for polycrystalline media.

**503. (CEEn-MeEn) Theory of Elasticity.** (3:3:0) W Prerequisite: CEEn 203, Math 313.
Tensor notation, stress and deformation tensors, constitutive equations, field equations; plane-stress/plane strain, axisymmetric, thermoelasticity, and large deformation problems.

**504. (CEEn-MeEn) Matrix Structural Analysis.** (3:3:0) W Prerequisite: instructor's consent.
Matrix notation, principle of virtual forces, flexibility method, principle of virtual displacements, stiffness method, general purpose computer programs for structural analysis.

**505. Materials, Uses, and Properties of Concrete.** (3:2:3) F Prerequisite: instructor's consent.
Manufacturing and testing of cements; concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment; laboratory work.

**506. (CEEn-MeEn) Introduction to the Finite Element Method.** (3:3:0) F Prerequisite: CEEn-MeEn 501 or 504, or instructor's consent.
Finite element stress analysis; mathematical foundations; simplex, isoparametric, bending, and axisymmetric elements; basic 2-D and 3-D modeling techniques; use of FEA computer software and hardware.

**507. (CEEn-MeEn) Advanced Finite Element Analysis.** (3:3:0) W Prerequisite: CEEn-MeEn 506.
Complex 3-D finite modeling, multiple element types, mesh generation techniques. Application to thermal stress, nonlinear materials, large deformations. Use of CAE software.

**508. (CEEn-MeEn) Dynamics of Structures and Mechanical Systems.** (3:3:0) F even yr. Prerequisite: Math 313; CEEn-MeEn 504.
Dynamic analysis of single and multi-degree-of-freedom systems, Ritz approximation, frequency domain analysis, geometric nonlinearity, material nonlinearity.

**509. (CEEn-MeEn) Spectral Analysis of Dynamic Systems.** (3:3:0) W Prerequisite: Math 313, CEEn 204.
Vibrations of elastic bodies and of systems with multiple degrees of freedom; random vibration. Computer-aided vibration testing and analysis.

**513. (CEEn-Geog) Photogrammetry and Remote Sensing.** (3:2:3) Sp Prerequisite: CEEn 113.
Using data obtained from visible range (photographs) and broader ranges (radar, microwaves, infrared, remote, etc.) of the electromagnetic spectrum to solve engineering problems with mapping procedures; photo and electronic data interpretation.

**524. Design of Bridge Structures.** (3:2:3) Sp Prerequisite: CEEn 341, 424, 504.
Design of bridge composite; continuous beam and girder bridges including piers, abutments, floor systems, and bearings; field trips to observe bridge construction and fabrication.

**526. Prestressed Concrete.** (3:3:0) W Prerequisite: CEEn 424, 504.
Basic theory, methods of pre- and post-tensioning, and details of design and fabrication applications to continuous structures.

**529. Timber Design.** (3:3:0) Sp odd yr.; Su even yr. Prerequisite: CEEn 321.
Timber species, composition, and grades; design of beams, straight and tapered glue-lam girders, columns, connections, trusses, shear walls, and structural systems.

**531. Water Resources Engineering.** (3:2:3) F Prerequisite: CEEn 431, 433.
Advanced hydrologic and hydraulic principles in planning and designing irrigation, drainage, flood control, and other water resource facilities.

**535. Hydraulic Design of Channels and Control Structures.** (3:2:3) W Prerequisite: CEEn 431, 433.
Design of water conveyance channels and control structures, including siphons, chutes, weirs, flumes, dams, spillways, and outlet works.

**540. Geo-Environmental Engineering.** (3:3:0) Prerequisite: CEEn 341.
Geotechnical aspects of environmental engineering. Topics include municipal and hazardous solid waste landfill design and characterization and remediation techniques for contaminated soil and groundwater.

**542. Foundation Engineering.** (3:3:0) W; Sp even yr. Prerequisite: CEEn 341 or equivalent.
Soil investigation, bearing capacity and settlement, design of spread footings, combined footings, mat foundations, retaining walls, pile foundations, and drilled shafts.

**543. Earth- and Rock-Fill Structures.** (3:3:0) Prerequisite: CEEn 341 or equivalent.
Design and construction of earth- and rock-fill dams, including selecting dam sites and materials, and applying seepage and pore pressure studies, shearing strength data, stability analysis, and construction controls.

**545. Geotechnical Analysis of Earthquake Phenomena.** (3:3:0) Prerequisite: CEEn 321, 341.
Earthquake magnitude and intensity; design ground motions, elementary dynamics of structures; response spectra; building code provisions; liquefaction and ground failure.

**550. Water Quality Management.** (3:3:0) W Prerequisite: CEEn 351.
Philosophies, objectives, and methods for water quality management, including impact of various uses on water quality and behavior of pollutants in receiving waters.

**555. Sanitary Engineering Analysis.** (3:1:6) F Prerequisite: CEEn 351.
Techniques for chemical and biological analysis of major organic and inorganic constituents of water, sewage, and industrial wastes.

**561. Geometric Design of Highways.** (3:3:0) F Prerequisite: CEEn 361.
Designing visual aspects of highways: highway classification, design controls and criteria, design elements, vertical and horizontal alignment, cross section, intersections, interchanges, capacity analysis.

**562. Traffic Engineering: Characteristics and Operations.** (3:3:0) F Prerequisite: CEEn 361.
Traffic flow theory, traffic operations, characteristics of drivers and vehicles, parking facilities, at-grade intersections, channelization, traffic control devices, signals.

**563. Pavement Design.** (3:3:0) W Prerequisite: CEEn 361.
Properties and selection of pavement components including soils, stabilized soil, base, subbase, subgrade, and bituminous materials, along with design of rigid and flexible pavements.

**565. Transportation in Urban Planning.** (3:3:0) W Prerequisite: instructor's consent.
Street classification and function; design elements of streets, intersections, and access drives; transportation planning studies; land-use transportation interrelationships, improvement alternatives for urban transportation.

**570. (CEEn-MeEn) Computer-Aided Engineering Software Design.** (3:3:0) F on dem. Prerequisite: Fortran or C or similar computer language background.

Programming techniques and structure for interactive engineering design software. Use of engineering library utility routines for computer graphics, data access, and user interface. Term project required.

**571. (CEEn-MeEn) Engineering Computer Graphics and Software Design.** (3:3:0) W Prerequisite: Fortran or C or similar computer language background.

Application of modern computer graphics techniques to engineering problems; 2-D and 3-D transformations, perspective, hidden surface removal, lighting and shading; graphics data structures, standards, device independency; software design methodology. Term project required.

**572. (CEEn-MeEn) Computer-Aided Geometric Design.** (3:3:0) F Prerequisite: Fortran or C or similar computer language background.

Mathematical theory of free-form curves and surfaces and solid geometric modeling. Bezier and B-spline curve and surface theory, parametric and implicit forms, intersection algorithms, topics in computer algebra, free-form deformation. Several programming projects.

**575. (CEEn-MeEn) Optimization Techniques in Engineering.** (3:3:0) On dem. Prerequisite: Math 321 and Fortran, C or similar computer language.

Application of computer optimization techniques to constrained engineering design. Theory and use of state-of-the-art computer routines. Robust design methods.

**580. Hazardous Waste Management and Control.** (3:3:0) W Prerequisite: CEEn 351 or instructor's consent.

Hazardous waste statutes and regulations; introduction to hazardous waste treatment, storage, disposal, and monitoring techniques.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Civil and Environmental Engineering Faculty

**Professors**

Balling, Richard J. (1982) BA, BS, U. of Utah, 1978; MS, PhD, U. of California, Berkeley, 1979, 1982.

Benzley, Steven E. (1980) BES, MS, Brigham Young U., 1966, 1967; PhD, U. of California, Davis, 1971.

Budge, W. Don (1964) BS, MS, Utah State U., 1959, 1961; PhD, U. of Colorado, 1964.

Christiansen, Henry N. (1965) BS, Utah State U., 1957; MS, PhD, Stanford U., 1958, 1962.

Merritt, LaVere B. (1970) BS, MS, U. of Utah, 1963, 1966; PhD, U. of Washington, 1970.

Miller, A. Woodruff (1974) BES, Brigham Young U., 1969; MS, ENG, PhD, Stanford U., 1970, 1972, 1975.

Sederberg, Thomas W. (1978) BS, MS, Brigham Young U., 1975, 1977; PhD, Purdue U., 1983.

Thurgood, Glen S. (1967) BES, MS, Brigham Young U., 1965, 1967; PhD, Texas A&M U., 1975.

Wilson, Arnold (1957) BS, MS, Brigham Young U., 1957, 1962; PhD, Oklahoma State U., 1973.

Youd, T. Leslie (1984) BES, Brigham Young U., 1964; PhD, Iowa State U., 1967.

**Associate Professors**

Borup, M. Brett (1987) BS, Humboldt State U., 1980; MS, Utah State U., 1982; PhD, Clemson U., 1985.

Downs, Wayne C. (1996) BS, MS, Brigham Young U., 1975, 1980; ME, PhD, U. of Florida, 1984, 1993.

Goodwin, Reese J. (1967) BES, MS, Brigham Young U., 1962, 1963; PhD, U. of Utah, 1976.

Jensen, David W. (1993) BS, Brigham Young U., 1980; SM, PhD, Massachusetts Institute of Technology, 1981, 1986.

Rollins, Kyle M. (1987) BS, Brigham Young U., 1982; PhD, U. of California, Berkeley, 1987.

Wallace, Lynn P. (1983) BS, U. of Utah, 1963; MS, PhD, West Virginia U., 1968, 1970.

**Assistant Professor**

Jones, Norman L. (1991) BS, Brigham Young U., 1986; MS, PhD, U. of Texas, Austin, 1988, 1990.

**Emeriti**

Calder, Glen H. (1955) BS, MS, Utah State U., 1952, 1953.

Enke, Glenn L. (1962) BS, U. of California, Berkeley, 1928.

Firmage, D. Allan (1955) BS, U. of Utah, 1940; MS, Massachusetts Inst. of Technology, 1941.

Fuhriman, Dean K. (1954) BS, MS, Utah State U., 1941, 1950; PhD, U. of Wisconsin, Madison, 1952.

Rollins, Ralph L. (1956) BS, MS, Utah State U., 1941, 1949; PhD, Iowa State U. of Science and Technology, 1954.

# Classical Civilization

See Humanities, Classics, and Comparative Literature.

# Classical Studies or Classics

See Humanities, Classics, and Comparative Literature.

# Clothing and Textiles

Charlene Lind, Chair
3256 SFLC, PO Box 26796, (801) 378-3943

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Clothing and Textiles are open enrollment.

## The Discipline

The Department of Clothing and Textiles curriculum helps students better understand the development of fibers and fabrics; the construction, design, and merchandising of clothing; and the human needs that clothing meets. It also offers preparation for employment in the textile and apparel industries.

Department faculty members encourage clothing and textiles majors to participate in carefully selected, major-related field experiences. To this end, the department provides opportunities for practical experience through designing and constructing garments for others and through apparel design and retail internships. Majors, especially those in apparel studies, are strongly advised to seek employment at Cougar Custom Sewing for at least one semester, preferably during their sophomore or junior year.

### Cougar Custom Sewing

Sponsored by the department, Cougar Custom Sewing provides employment opportunities and practical experience in the design and construction of apparel for others. Those students whose major option involves clothing construction are strongly advised to seek employment at Cougar Custom Sewing for at least one semester. Employees are selected on the basis of their performance in clothing construction and design classes.

## Career Opportunities

A number of careers can be pursued by choosing one of three department options:

**Apparel Studies** prepares students for apparel production, self-employment, or graduate work leading to university teaching.

**Fashion Merchandising** provides specialized training for positions such as buyer, assistant buyer, store manager, fashion coordinator, and fashion promoter.

**Fashion Design** provides training for positions in apparel design or theatrical costume design.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Fashion Design |
| BS | Apparel Studies |
| BS | Fashion Merchandising |
| Minor | General Clothing |

For help or information on the undergraduate programs, please see your college advisement center.

## BA Fashion Design (63–64 hours*)

#### Major Requirements

1. Students must maintain an overall GPA of at least 2.0 with no hours of D credit in any course required in the major.
2. Transfer students must complete at least 12 credit hours of work in this department to qualify for graduation.
3. Writing policy: The Clothing and Textiles Department requires that all proposals, papers, reports, summaries, etc., submitted by students for class work or to the department be typed. Any exceptions will be noted in the course outline or by the instructor. "A Brief Guide to the Writing of Student Papers," a publication of Brigham Young University, may be used as a reference for maintaining high writing quality.

4. Complete the following:
   CITx 102, 110, 112, 120, 212, 225, 261, 285, 300, 325, 385, 425, 490.
5. Select one course from the following:
   CITx 330, 340.
6. Select one course from the following:
   CITx 320, 340.
7. Complete 1 hour of the following (during junior and senior years):
   CITx 390R.
8. Complete the following:
   Chem 100.
   Econ 110.
9. Select three courses from the following:
   CITx 251, 321, 323, 351, 386, 415, 422, 451, 545.
10. Select three courses from the following:
    ThF 127R, 362, 462.
    VACor 130, 132.
    VAHis 111.

**Recommended Courses**

CITx 360, 496R (3 hours).
Hum 201, 202 (or VAHis 201, 202).

*Hours include courses that may fulfill GE or university requirements.

## BS Apparel Studies (60 hours*)

**Major Requirements**

1. Students must maintain an overall GPA of at least 2.0 with no hours of D credit in any course required in the major.
2. Transfer students must complete at least 12 credit hours of work in this department to qualify for graduation.
3. Writing policy: The Clothing and Textiles Department requires that all proposals, papers, reports, summaries, etc., submitted by students for class work or to the department be typed. Any exceptions will be noted in the course outline or by the instructor. "A Brief Guide to the Writing of Student Papers," a publication of Brigham Young University, may be used as a reference for maintaining high writing quality.
4. Complete the following:
   CITx 102, 110, 112, 120, 212, 225, 261, 285, 300, 320, 325, 385, 386, 395, 425, 490.
5. Complete 1 hour of the following (during junior and senior years):
   CITx 390R.
6. Complete 3 hours from the following:
   CITx 496R.
7. Select one course from the following:
   CITx 321, 330.
8. Select one course from the following:
   CITx 487, 488.
9. Complete the following:
   Chem 100.
   Econ 110.

**Recommended**

CITx 360.

*Hours include courses that may fulfill GE or university requirements.

## BS Fashion Merchandising (62 hours*)

**Major Requirements**

1. Students must maintain an overall GPA of at least 2.0 with no hours of D credit in any course required in the major.
2. Transfer students must complete at least 12 credit hours of work in this department to qualify for graduation.
3. Writing policy: The Clothing and Textiles Department requires that all proposals, papers, reports, summaries, etc., submitted by students for class work or to the department be typed. Any exceptions will be noted in the course outline or by the instructor. "A Brief Guide to the Writing of Student Papers," a publication of Brigham Young University, may be used as a reference for maintaining high writing quality.
4. Complete the following:
   CITx 102, 110, 112, 212, 261, 300, 330, 371, 373, 377, 473, 474, 490.
5. Complete 1 hour of the following (during junior and senior years):
   CITx 390R.
6. Complete 3 hours from the following:
   CITx 496R.
7. Complete the following:
   Chem 100.
   Econ 110.
8. Complete the following:
   Acc 200.
   BusM 340, 456.
   OrgB 320.
   TecE 270.

**Recommended Course**

CITx 360.

*Hours include courses that may fulfill GE or university requirements.

## Minor General Clothing (14 hours)

1. Complete at least 5 minor hours at BYU.
2. No D credit in minor courses will be accepted.
3. Complete at least one course in three of the four following areas:
   a. Construction:
      CITx 212, 285, 385, 386, 395, 487, 488, 520R.
   b. Design and selection:
      CITx 110, 225, 251, 300, 321, 323, 325, 340, 351, 415, 422, 425, 451.
   c. History and economics:
      CITx 102, 112, 330, 373, 377, 430, 473, 474, 496R.
   d. Textiles:
      CITx 261, 495R.

4. Complete additional courses from the areas listed above for a total of 14 hours.

## Clothing and Textiles (CITx)

### Undergraduate Courses

**102. Introduction to Apparel, Textiles, and Merchandising.** (3:3:0)
Process of producing merchandise from fiber to consumer. Career opportunities in the field.

**105. Elementary Clothing Construction.** (2:1:3)
Unit method of clothing construction applied to simply designed apparel. For nonmajors with little or no sewing experience. Student-supplied materials required.

**110. Aesthetics of Dress.** (3:2:2)
Coordination of art principles and elements with apparel planning and buying; application to men and women. Lab required.

**112. Fashion Principles.** (3:3:0)
Theories of fashion change, including cycles, adoption, diffusion, and terminology.

**120. CAD Basics for Apparel.** (1:0:2)
Introduction to CAD environment and programs for apparel.

**135R. Clothing Construction for Nonmajors.** (2:1:3 ea.) Prerequisite: CITx 105 or equivalent experience.
Construction techniques for a variety of fabrics. Choice of projects adapted to student's experience. Student-supplied materials required.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: approval of faculty advisor and department chair.
Work experience evaluated by supervisor and posted on student transcript.

**212. Apparel Production Processes.** (3:3:3)
Critical issues of successful apparel production; integrating designing, manufacturing, and merchandising.

**225. Pattern Design 1.** (3:2:4) Prerequisite: previous experience in clothing construction, CITx 120.
Fundamentals of pattern design using a variety of methods and materials.

**251. Apparel Design 1.** (3:2:4) Prerequisite: CITx 110.
Application of design principles to create multiple designs for a broad spectrum of products. Emphasis on quantity of ideas and speed in conception and production.

**261. Textiles.** (3:3:2) Independent Study also.
Natural and synthetic textile fibers, yarns, fabric construction, dyes and finishes; application to use and performance of textile fabrics. Lab required.

**285. Apparel Construction Techniques.** (3:2:4)
Comparative methods to increase apparel construction and decision making skills. Student-supplied materials. Fee.

**300. Clothing and Human Behavior.** (3:3:0) Prerequisite: 3 hours of social and behavioral science courses. Recommended: Engl 315 or 316.
Clothing needs of family members through the life cycle from physical, social, psychological, economic, and cultural viewpoints.

**320. Intermediate CAD for Apparel.** (3:2:4) Prerequisite: CITx 120.
Computer programs and processes used in apparel industry for technical drawings, presentations, markers, and data management.

**321. Weaving.** (3:1:4) Recommended: CITx 110.
Creative design applied to weaving methods for both floor looms and simple looms. Lab and student-supplied materials required.

**323. Surface Pattern Application.** (3:2:4) Prerequisite: CITx 251, 261, Des 111, 119.
Design of printed fabrics with emphasis on women's, men's, and children's apparel. Methods of designing, croquis, repeats, and color combinations using dyes and various media.

**325. Pattern Design 2.** (3:2:4) Prerequisite: CITx 225.
Intermediate pattern design using CAD, flat pattern, drafting, and draping techniques for standard sizes. Student-supplied materials required.

**330. History of Costume.** (3:3:0)
Social, economic, and political influences on dress through the ages. Costume as an expression of lifestyle and as a basis for interpreting modern fashions.

**340. Fashion Illustration.** (3:2:4) Prerequisite: CITx 110. Recommended: Design 111.
Layout, design, and rendering for clothing and accessories.

**351. Apparel Design 2.** (3:2:4) Prerequisite: CITx 251, 320, 325, 385.
Full-scale apparel design for different market segments, price levels involving problem solving across a range of garment types. Student-supplied materials required.

**360. Textile Evaluation.** (3:2:2) Prerequisite: CITx 261.
Standard procedures of textile performance testing.

**371. Aspects of Fashion Retailing.** (3:3:0) Prerequisite: CITx 112, 212.
Introduction to fashion retailing including history, macro structure of individual stores, types of stores, and influential organizations and people.

**373. Global Aspects of the Fashion Industry.** (3:3:0) Prerequisite: junior standing, Econ 110, CITx 112, 212, 261.
Global trade legislation and trends specific to the textile and apparel industry and the role of U.S. industry in the global economy.

**377. Fashion Promotion and Merchandising.** (3:3:1) Prerequisite: CITx 110, 371.
Promotion and marketing of fashion goods, including visual merchandising, ancillary operations, promotion techniques, and advertising.

**385. Apparel Assembly Methods.** (3:2:4) Prerequisite: CITx 285.
Comparative assembly methods applied to a range of garment types made from a variety of fabrics. Student-supplied materials required.

**386. Fitting and Pattern Alteration.** (3:2:4) Prerequisite: CITx 225, 385.
Principles used to adapt pattern and apparel fit for individual figure variations. Construction of fashion apparel. Student-supplied materials required.

**390R. Apparel, Textiles, and Merchandising Symposium.** (0.5:1:0) Prerequisite: major status.
Current topics presented by faculty and visiting professionals.

**395. Apparel Entrepreneurship.** (3:3:0)
Entrepreneurial skills needed to initiate and operate a private business.

**415. Specialty Costume Design.** (3:1:5) Prerequisite: CITx 225 or instructor's consent.
Research and application of costume construction for dance, opera, commedia del arte, Oriental theatre, and musical variety shows.

**422. Textile Structures.** (3:2:4) Prerequisite: CITx 261, 321.
Woven textile design of apparel fabrics. Color, texture, pattern, and structure of woven cloth as they relate to drape and styling of garment.

**425. Pattern Design 3.** (3:2:4) Prerequisite: CITx 325.
Advanced pattern design including CAD applications for grading, use of bias, and study of innovative designers.

**430. Historic Textiles.** (3:3:0)
Textile techniques and designs used by various societies, ancient to contemporary.

**451. Apparel Design 3.** (3:2:4) Prerequisite: CITx 351.
Integration of apparel design skills in producing and presenting an original line, including sourcing and costing. Student-supplied materials required.

**473. Retail Buying and Wholesale Markets.** (3:3:0) Prerequisite: Acc 200, CITx 373, 377.
Relationship between vendors and retail buyers, wholesale marketing tools, retail buying, merchandise planning/retail math, and prominent apparel manufacturers.

**474. Field Research in Fashion Goods.** (3:3:0) Prerequisite: CITx 473.
Product classification research on fashion-oriented products to build and synthesize knowledge necessary in (1) managerial decision making and (2) buying for the apparel industry.

**487. Tailoring.** (3:2:4) Prerequisite: CITx 261, 385, 386.
Shaping and multi-layer techniques applied to women's and men's tailored clothing. Student-supplied materials required.

**488. Using Designer Techniques and Specialty Fabrics.** (3:2:4) Prerequisite: CITx 110, 261, 385, 386.
Creative use of decorative and structural techniques applied to a variety of specialty fabrics. Construction of samples and fashion apparel. Fee.

**490. Senior Seminar.** (1:1:0) Prerequisite: senior standing and 12 credit hours in major; Engl 315, 316, or MCom 320.
Reports and readings from current professional journals.

**495R. Special Topics in Apparel, Textiles, and Merchandising.** (1–3:Arr.:Arr. ea.) Prerequisite: 15 semester hours in clothing and textiles and instructor's consent.
Individual study in special areas of interest.

**496R. Merchandising or Design Internship.** (1–9:Arr.:Arr. ea.) Prerequisite for merchandising: CITx 371, 377, and written departmental approval. Recommended: CITx 373, BusM 456. Prerequisite for design: CITx 320, 325, 351, 385, and written departmental approval.
Fifteen-week full-time work experience fulfilling specific training assignments.

## 500–Level Graduate Courses (available to advanced undergraduates)

**520R. Workshop in Clothing and Textiles.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**545. Period Pattern Making.** (3:1:4) Prerequisite: CITx 225, 330, and instructor's consent.
Applying costume history and pattern making to period fashions. Hands-on experience in actual costume construction for theatre productions.

## Clothing and Textiles Faculty

**Associate Professors**
Kuchar, Marvin C. J. (1979) AA, Eastern Arizona Coll., 1955; BS, PhD, Brigham Young U., 1957, 1963.
Lind, Charlene (1964) BS, Utah State U., 1955; MA, U. of Maryland, College Park, 1961; PhD, U. of Wisconsin, Madison, 1974.
Steineckert, Della N. (1970) BS, Brigham Young U., 1954; MA, Adams State Coll. of Colorado, 1963; PhD, Florida State U., 1976.

**Assistant Professors**
Burnham, Catherine (1992) BS, MEd, Brigham Young U., 1971, 1989; EdD, U. of Illinois, 1991.
Farahnakian, Mary (1988) BA, U. of Tehran, Iran, 1971; PhD, Brigham Young U., 1977.

**Instructor**
Thompson, Mary J. (1974) BS, Brigham Young U., 1961; MA, Washington State U., 1974.

**Special Instructors**
Dawna Baugh, Wendy Copus, Judith Eatough, Michelle Hyde, Sue Lammersen, Jean Nicoll, Cheng-Hwa Zeng

**Emeriti**
Childs, Margaret S. (1946) BS, Brigham Young U., 1939; MS, Oregon State U., 1949.
Jorgensen, Eleanor (1949) BS, Brigham Young U., 1946; MS, Kansas State U., 1954; PhD, Texas Woman's U., 1965.
Lee, Evelyn Monson (1962) BS, MS, Montana State U., 1952, 1959.
Liechty, Elizabeth L. (1952) BS, Utah State U., 1948; MS, U. of California, Los Angeles, 1954.
Thackeray, Renee (1973) BS, Brigham Young U., 1953; MS, Oregon State U., 1960.
Wright, Doris Lewis (1976) BS, Brigham Young U., 1973; MS, Utah State U., 1977.

# Communications

Leonard L. Bartlett, Chair
E-509 HFAC, PO Box 26403, (801) 378-2997

College of Fine Arts and Communications Advisement Center
D-444 HFAC, PO Box 26333, (801) 378-3537

## Admission to Degree Program

The degree programs in the Department of Communications carry special enrollment limitations. Please see the college advisement center for specific details.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BA Advertising
BA Broadcast Communication
BA Communication Studies
BA Journalism
BA Journalism Education
BA Public Relations
BA Honors in Communications and University Honors
Emphases:
- Advertising
- Broadcast Communication
- Communication Studies
- Journalism
- Public Relations

Minors Communications
Journalism Education

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Communications

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

Working under faculty direction, students in the department edit and publish the *Daily Universe* as a laboratory newspaper for the campus, produce daily radio and television newscasts on KBYU-FM and KBYU-TV, produce @BYU.Newsline for the Internet, plan advertising and public relations campaigns, solve media sales and management problems, and create multimedia presentations.

The Department of Communications sponsors the International Media Studies Program, which seeks to broaden students' awareness of worldwide communications issues and practices. Not only do students have opportunity to study the media systems of other nations through classes and on-site experiences, but media practitioners of other nations are also brought to campus as lecturers and visiting experts. International Media Studies is directed by John Hughes, Pulitzer Prize–winning journalist and former publisher of the *Christian Science Monitor*.

#### Departmental Requirements

1. Each student must be formally accepted into a degree program. Contact the college advisement center for admission requirements.
2. All students, including those who have received high school advanced-placement credit with a score of 2 or less, must take a campus writing class before applying for admission to the major. The following writing classes fill this requirement: Engl 115, College Writing and Reading; Phil 105, Reasoning and Writing; or HonP 200, Intensive Writing. (All these courses can fill the GE First-Year Writing requirement.)
3. The student's faculty advisor must approve his or her supporting-area program.
4. Complete 90 hours outside the department, of which at least 65 hours must be in the liberal arts and sciences.
5. Except for communication studies students, every student is required to serve an internship. Although the department operates an internship office (F-340 HFAC) that serves as a clearinghouse for internship information, the responsibility for securing an internship rests with the student. However, students should not embark on any internship without prior approval from a faculty advisor, before processing

appropriate documents with the Communications Department (E-509 HFAC), and without being enrolled in Comms 199R.

## BA Advertising (59–66 hours*)

### The Discipline

As a communications major who chooses the advertising sequence, you will participate in a program that will give you a strong grounding in the liberal arts and sciences, provide you with a firm grasp of communications theory and principles, and equip you with practical workplace skills.

In your advertising courses you will learn how to use research in studying diverse audiences, analyzing communications problems, and evaluating communications programs. You will write problem-solving strategies and create oral and written advertising messages to specific target audiences. You will also learn how to evaluate and select the most effective media for reaching those target audiences and gain an understanding of how broadcast, print, and other media are marketed.

Your advertising studies will culminate in your participation, as a team member, in creating and presenting a comprehensive and competitive integrated marketing communications campaign.

### Career Opportunities

This field provides career opportunities in advertising, related fields, and advertising media sales as well as in its creative, research, media planning, and management functions.

### Major Requirements

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. Complete the following:
   Comms 101, 201, 307, 311, 391, 480.
3. Complete 1 hour of the following (take the course twice):
   Comms 461R.
4. After consulting with a faculty advisor, complete 1 hour of the following:
   Comms 199R.
5. Select one course from the following:
   Comms 301, 310, 338, 410, 481, 482, 483.
6. Complete the following:
   Comms 230, 330, 332, 432, 439.
7. Select one course from the following:
   Comms 331, 344.
8. Select one course from the following:
   Stat 105, 221, 222.
9. Complete the following:
   MCom 320.
   BusM 340.
10. Complete a minor in management (22 hours, 9 of which overlap with the major) or English (18 hours).
    Students electing the advertising management track must complete a minor in business management. Students electing the advertising creative track must complete a minor in English.

*Hours include courses that may fulfill GE or university requirements.

## BA Broadcast Communication (59–61 hours*)

### The Discipline

The study of broadcasting at Brigham Young University offers a unique opportunity to acquire an intimate knowledge of the messages, tools, and communication facilities that are so crucial in shaping our opinions, emotions, attitudes, and actions. You will learn about the inner workings and interrelationships of networks, stations, cable TV facilities, advertisers, unions, program suppliers, telephone companies, the government, and a host of other organizations that affect the actions and programming of the broadcast industry.

### Career Opportunities

Many students are filling key roles in areas ranging from news, production, programming, promotion, advertising, and marketing to engineering, syndication, and executive management. A sampling of career tracks includes: camera operators, floor directors, audio technicians, computer graphics editors, field reporters, audio technicians, computer graphics editors, field reporters, anchors, meteorologists, programmers, researchers, media consultants, account executives, videographers, writers, broadcast educators, and general managers.

Radio and television stations, however, are not the only entities offering employment opportunities. The cable TV industry is coming on strong and needs people skilled in every facet of television—production, sales, programming, management, promotion, marketing, performance, and community relations.

### Major Requirements

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. Complete the following:
   Comms 101, 201, 307, 311, 391, 480.
3. Complete 1 hour of the following (take the course twice):
   Comms 461R.
4. After consulting with a faculty advisor, complete 1 hour of the following:
   Comms 199R.
5. Select one course from the following (410 strongly recommended):
   Comms 301, 310, 338, 410, 481, 482, 483.
6. Complete the following:
   Comms 243.
7. Select one course from the following:
   Stat 105, 221, 222.
8. Complete 9 hours of courses in the Department of English. Hours must not include any course that could be used to fill a GE or university requirement.
9. After consulting with a faculty advisor, complete 9 hours of communications electives.
10. After consulting with a faculty advisor, complete 12 hours of supporting course work outside communications.

*Hours include courses that may fulfill GE or university requirements.

## BA Communications Studies (60–62 hours*)

### The Discipline

This program is designed for the student who wants a broad, general undergraduate background in communications and does not necessarily want to specialize in advertising, broadcasting, journalism, or public relations. This may be the student who plans to pursue advanced academic degrees rather than work in industry.

### Career Opportunities

This major does not lead to specific careers but is appropriate for those planning to pursue graduate degrees.

### Major Requirements

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. Complete the following:
   Comms 101, 201, 307, 311, 391, 480.
3. Complete 1 hour of the following (take the course twice):
   Comms 461R.
4. Complete 1 hour from the following:
   Comms 495R.
5. Select four courses from the following:
   Comms 301, 310, 338, 410, 481, 482, 483.
6. After consulting with a faculty advisor, complete 6 hours of communicatons studies electives.
7. Select one course from the following:
   Stat 105, 221, 222.
8. Complete 9 hours of courses in the Department of English. Hours must not include any course that could be used to fill a GE or university requirement.
9. After consulting with a faculty advisor, complete 12 hours of supporting course work outside communications.

*Hours include courses that may fulfill GE or university requirements.

## BA Journalism (61–63 hours*)

### The Discipline

The study of journalism entails the mastery of working with people to present news and features in a way that reflects events accurately and fully. You will acquire skills in analytical thinking, lucid writing, and interviewing to be able to present a clear and forceful picture of your subject in words. To have a broad background, students are encouraged to earn more than 70 percent of their credits in other departments. You will develop a wide understanding of the world and the processes that make society work. In addition, you will become familiar with methods of writing that effectively reach mass audiences—that portray events and people in satisfying ways. Since a wide range of knowledge is essential within the field, you will study libel law, ways of writing for magazines, the process of communication, and such areas as the interaction between the mass media and society today.

### Career Opportunities

In the exciting field of journalism, traditionally there has been the allure of working in a profession that has its finger on the changing pulse of society. Whether serving as reporters and editors on daily newspapers, the community press, or in the growing magazine field, journalists find themselves rubbing shoulders with important people and recording important events.

A career in journalism implies not only skill with words, but the ability to make sound judgments and to ferret out facts. In recent times a growing demand has arisen for those with writing specializations, such as medicine or science. In addition to the obvious careers as reporters and editors, students often find their journalism skills in demand in a variety of other areas.

Many find the challenge of recording the drama of real life both satisfying and enlightening. Because of television, journalism has changed in recent years, but even though there has been a decline in the number of daily newspapers, an explosion of special interest magazines has opened up innumerable jobs for writers and editors. These changes call for greater skill in writing to be able to present the world in an interesting way. Overall, one of journalism's great satisfactions has been the sense that one can make a difference in the world and bring about changes for the better.

### Major Requirements

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. Complete the following:
   Comms 101, 201, 307, 311, 391, 480.
3. Complete 1 hour of the following (take the course twice):
   Comms 461R.
4. After consulting with a faculty advisor, complete 1 hour of the following:
   Comms 199R.
5. Select one course from the following:
   Comms 301, 310, 338, 410, 481, 482, 483.
6. After consulting with a faculty advisor, complete the following:
   Comms 312, 323, 420.
7. After consulting with a faculty advisor, select an additional 9 hours from the following:
   Comms 230, 235, 338, 365R, 427, 428.
8. Select one course from the following:
   Stat 105, 221, 222.
9. Complete 9 hours of courses in the Department of English. Hours must not include any course that could be used to fill a GE or university requirement.
10. After consulting with a faculty advisor, complete 9 hours of supporting course work outside communications.

*Hours include courses that may fulfill GE or university requirements.

## BA Journalism Education (76–82 hours*, including certification hours)

### Major Requirements

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. A teaching minor is required for certification (approximately 16–21 hours).
3. Complete the following:
   Comms 101, 201, 307, 311.
4. Complete the following:
   Comms 312, 323, 420.

5. After consulting with a faculty advisor, select 9 hours from the following:
   Comms 230, 243, 365R, 427, 428, 429, 447, 480.
6. Complete the Professional Education Component (31–32 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Public Relations (62–63 hours*)

**The Discipline**

The public relations major provides training in one of the fastest growing areas in the communications field. It prepares students with critical skills in writing, strategic program planning and management, creative problem solving, and media relations. It can be either a highly credible terminal degree or excellent undergraduate preparation for an advanced degree.

**Career Opportunities**

Virtually all segments of the public and private sectors throughout the world draw employees from public relations graduates. Graduates may work as technical experts or in management tracks. They may specialize in employee relations, community relations, public affairs, media relations, or several other tracks within the professional arena. They may also pursue public relations in a specific industry, such as health care or financial public relations.

**Major Requirements**

1. No D credit in communications or approved or supporting courses will count toward graduation.
2. Complete the following:
   Comms 101, 201, 307, 311, 391, 480.
3. Complete 1 hour of the following (take the course twice):
   Comms 461R.
4. After consulting with a faculty advisor, complete 1 hour of the following:
   Comms 199R.
5. Select one course from the following:
   Comms 301, 310, 338, 410, 481, 482, 483.
6. Complete the following:
   Comms 235, 312, 336, 421, 435, 458.
7. Select one course from the following:
   Stat 105, 221, 222.
8. Complete the following:
   Acc 200.
   BusM 340.
   MCom 320.
   TecE 450.
9. Complete 9 hours of courses in the Department of English. Hours must not include any course that could be used to fill a GE or university requirement.

**Recommended Courses:**
Comms 230, 243, 323.
PlSc 230.
TecE 250.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Communications and University Honors

For information on this degree program see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Communications (15 hours)

Select 15 hours from the major requirement courses. Contact the advisement center for recommendations.

## Minor Journalism Education (23 hours)

1. Complete the following:
   Comms 101, 201, 311, 312, 323.
2. Select 8 hours from the following:
   Comms 230, 243, 307, 420.

## Communications (Comms)

### Undergraduate Courses

**101. Mass Communication and Society.** (3:3:0) Independent Study also.
Historical roles of mass media in society, emphasizing media effects on individuals and institutions.

**150. Public Speaking.** (3:3:0)
Principles and methods of public speaking; speaking experiences.

**199R. Internship.** (1–3:Arr.:Arr. ea.) Prerequisite: must be admitted to a department major, take prerequisites, and have approval of faculty advisor and clearance by the Communications Department.
Professional field experience.

**201. Communication Theory.** (2:2:0) Independent Study also.
History, development, and criticism of communication theory.

**230. Introduction to Advertising.** (3:3:0) Prerequisite: Comms 101.
Principles of advertising; critical evaluation of its role and value in American society. Experience in writing and creating ads for all media.

**235. Introduction to Public Relations.** (2:2:1) Prerequisite: Comms 101.
Philosophy and practice of public relations in business, government, education, and other institutions. Study of publics, media, methods, press relations, and publicity. Lab required.

**243. Introduction to Electronic Media.** (5:5:Arr.)
Broadcast communication systems in modern society; influences, current practices, and social implications. Includes single-camera electronic field production theory and planning.

**301. History of Mass Communications.** (3:3:0)
Print, film, and broadcast communication media from their beginnings to the present; their roles as institutions in American society.

**307. Communications Law.** (3:3:0)
First Amendment philosophy underlying regulation of the mass media; libel, privacy, media relations with courts, broadcast regulation, advertising regulation, copyright, trademark.

**310. Rhetorical Methods.** (3:3:0)
Speech composition and oral/audiovisual presentation for public and professional use.

**311. Writing for Mass Audiences.** (3:3:0) Prerequisite: HonP 200, Phil 105, or Engl 115 with a B– minimum and admittance to department major.
Analysis of audience, purpose, and context; selection and use of appropriate voice, structure, and techniques for effective written communication.

**312. Reporting.** (4:3:3) Prerequisite: Comms 311.
News evaluation; interviewing; fact gathering; beat coverage of courts, government, education, labor, and business. Lab required.

**315. Broadcast Writing and Performing.** (2:2:Arr.) Prerequisite: Comms 243, 311; admittance to major.
Theory and practice of producing and performing for radio. Includes practicum for KBYU-FM News.

**323. Editing.** (3:2:6) Prerequisite: Comms 307, 311, 312.
Copy editing, headline writing, page makeup, photo editing, and handling wire copy. Lab required.

**330. Print Advertising Copywriting.** (3:3:0) Prerequisite: Comms 230; 311 or concurrent registration; admittance to major.
Strategy and copywriting for print media advertising, including retail advertising.

**331. Broadcast Advertising Copywriting.** (2:2:0) Prerequisite: Comms 330; concurrent registration in Comms 396R for lab.
Strategy and copywriting for radio and television commercials.

**332. Advertising Media Planning and Strategy.** (3:3:2) Prerequisite: Comms 230, 311; Stat 105, 221, or 222; computer spreadsheet competence.
Media planning, theory, and practice in context of the marketing mix. Application of computer-based models as aids to media decisions. Writing of marketing-based media plans. Case study approach to both print and broadcast media.

**335. Producing and Performing for Television.** (3:3:Arr.) F, W, Sp Prerequisite: Comms 315.
Theory and practice of producing and presenting information for television. Role of television news in society, nature of audiences, production techniques, and TV news management. Lab includes producing and anchoring daily cable cast.

**336. Public Relations Case Studies.** (3:3:0) Prerequisite: Comms 235, 311, 312, or concurrent registration.
Cases selected from wide range of actual public relations problems confronting business, government, education, and other institutions.

**338. Impact of New Media Technologies.** (3:3:0)
Impact of computerized information delivery on traditional mass media and on society. Existing electronic systems.

**344. Broadcast and Print Advertising Media Sales.** (3:3:0) Prerequisite: Comms 230, 311.
Fundamentals of the media sales process. Covers both theory and application of persuasion as related to media sales.

**345. Television Studio Production.** (2:2:Arr.) Prerequisite: Comms 243.
Studio production of video, including audio, character generator, cameras, lighting, video switching, postproduction, and station operation.

**354. Managing and Producing News.** (2:2:Arr.) Prerequisite: Comms 243, 311, 315.
Writing for news on television, role of television news in society, nature of audiences, production techniques, TV news management.

**355. Media Message Design.** (3:3:0) Prerequisite: Comms 311, 391.
Variables influencing mediated message strategies for cognitive processing and development.

**360. Intermediate Broadcast Performance.** (2:2:Arr.) Prerequisite: Comms 243, 311, 315.
Theory and practice presenting broadcast materials for news, documentaries, education, training, and other applications.

**365R. Photojournalism.** (3:2:2 ea.)
Designing and producing single- and multiple-picture sequences for newspapers, magazines, and other media.

**375. Television Field Production and Information Gathering.** (2:2:Arr.) Prerequisite: Comms 315.
Instruction in principles and techniques of information gathering and visual storytelling. Includes recording and editing videotaped reports for daily cable cast.

**391. Communication Research Methods.** (3:3:0) Prerequisite: admittance to departmental major and completion of departmental statistics requirement.
Concepts, practices, applications; uses and abuses of research and evaluation in communications.

**396R. Broadcast Practicum.** (1:0:Arr. ea.) Prerequisite: instructor's consent.
Practice and projects in broadcast communication; approval of task or projects required before registration.

**397R. Honors Tutorial.** (1–2:Arr.:0 ea.) Prerequisite: instructor's and department's consent.

**398R. Projects in Communications.** (1–4:Arr.:0 ea.) Prerequisite: junior standing and sequence coordinator's consent. Project approval required before registration.
Projects in communication studies.

**402. Electronic Media Criticism.** (2:2:0)
Criticism of electronic media systems and their products and effects; critic's role and qualifications.

**410. Mass Media Administration.** (2:2:0)
Basic principles of management as they relate to organizing and administering newspapers, magazines, radio stations, and television stations.

**415R. Intermediate Video Production ENG/EFP.** (2:2:Arr. ea.) Prerequisite: Comms 243, 311, 315.
Intermediate video production practice, production of news packages, production of spots, commercials, and other video products.

**420. Advanced Reporting.** (3:2:0) Prerequisite: Comms 311, 312, or 315.
News coverage of government, analytic and interpretive reporting of courts, education, and other institutions. Investigative reporting, research, analysis, and writing on major public issues and trends.

**421. Public Relations Writing and Production.** (3:3:1) Prerequisite: Comms 235, 311, 312, 336.
Writing and editing news releases, reports, brochures, pamphlets, newsletters, speeches, and technical materials. Writing, editing, and producing for electronic media and video news. Media spokesperson training.

**427. Magazine Writing.** (3:3:0) Independent Study also. Prerequisite: Comms 311 or instructor's consent.
Analysis of nonfiction magazine markets, methods of effective writing, and criticism of articles written in the course.

**428. Magazine Editing and Publishing.** (3:3:0) Prerequisite: Comms 312.
Layout and design for magazines and business publications. Contemporary practices in content and production.

**429. Opinion Writing.** (3:3:0) Prerequisite: Comms 311, 312 or instructor's consent.
Function of editorials, columns, commentaries, and reviews in the mass media.

**432. Strategic Advertising Research.** (2:2:0) Prerequisite: BusM 340 and completion of departmental statistics requirement. Department majors only.
Development and execution of a comprehensive strategic advertising research program, including data collecting, field investigating, audience analysis, and strategy development preparatory to Comms 439. Emphasis on instrument development, data gathering, and interpretation.

**435. Public Relations Media and Campaigns.** (3:3:0) Prerequisite: Comms 235, 311, 312, 336, 391, 421.
Applying communication principles to internal and external publics; fact finding, planning, evaluating social interrelationships; major campaigns for selected clients.

**438. Public Relations and Public Affairs.** (3:3:0) Prerequisite: Comms 235, 311, 312, 336.
Corporate-government relations, lobbying, and other public affairs in legislative and regulatory processes at federal, state, and local levels as arenas for public relations practice.

**439. Strategic Advertising Campaigns.** (3:3:0) Prerequisite: Comms 230, 311; 330, 331, or 344; 332, 391, 432.
Researching, planning, budgeting, creating, and writing national advertising campaigns; writing and producing a complete advertising plan, accompanied by a formal client presentation.

**441. Broadcast News Reporting.** (2:2:Arr.) Prerequisite: Comms 243, 311, 315; 415R or concurrent registration.
Interviewing, beat coverage, fact finding, producing reports for broadcast news.

**446R. Directing Studio and Location Television.** (1:1:Arr. ea.) Prerequisite: Comms 243, 311, 345.
Principles, theory of, and practice in directing live television and single-camera, EFP location shooting.

**447. Broadcast Management Problems and Practices.** (3:3:0) Prerequisite: Comms 243, 410.
Current problems and practices found in commercial and noncommercial broadcasting.

**449. Electronic Media Programs and Audiences.** (3:3:Arr.) Prerequisite: Comms 311, 391.
Basic program forms used in electronic media, effective program structure and appeals, audience research and measurement.

**451. Nonfiction Script Writing.** (3:3:0) Prerequisite: Comms 311, 355, 391.
Tools and techniques for writing audio and video scripts for documentaries, instructional media, miniseries, and interactive media.

**458. Public Relations Management.** (2:2:0) Prerequisite: Comms 235, 311, 312, 336, 421, and senior standing.
Principles of systems management in public relations; history, models of public relations.

**459R. Advanced Program Development and Production.** (2:2:Arr.) Prerequisite: Comms 345, 355; or instructor's consent.
Broadcast producing; observing professional standards.

**460. Performance for Television Broadcasting.** (2:2:0) Prerequisite: Comms 243, 311, 315, 354, 360, 415R, 441.
Principles of vocal communication for broadcast performance; examines oral and visual aspects of broadcast communication.

**461R. Symposium.** (0.5:1:0 ea.)
Weekly guest lectures from prominent media practitioners and communication educators and researchers.

**475. Broadcast Documentary Production.** (3:3:Arr.) Prerequisite: Comms 375.
In-depth public affairs feature preparation for radio and television, using techniques in computer-assisted and investigative data gathering. Includes a weekly, day-long practicum for KBYU-TV and KBYU-FM.

**480. Ethics and Issues in Mass Communication.** (3:3:0) Prerequisite: Comms 101, 201, 307, and senior standing.
Ethical issues in mass communication; integration of moral reasoning to critical mass communication issues.

**481. Comparative Mass Media Systems.** (3:3:0)
Comparison of national media systems; normative theories of media organization and control.

**482. Issues in International Communication.** (3:3:0)
International information flow; information flow and foreign policy; international regulation; cultural imperialism; intercultural interaction.

**483. Communication and National Development.** (3:3:0)
Role of telecommunication and mass and interpersonal communication in national development, focusing on Third World; technology, policy and methods, problems, issues.

**495R. Research and Readings in Communication Practice.** (1–4:0:0 ea.) Prerequisite: senior standing.
Independent research projects and readings for communications majors. Projects must be approved in advance of registration.

**499R. Honors Thesis.** (1–3:Arr.:Arr. ea.) Prerequisite: approval of departmental Honors coordinator.
Scholarly research paper related to student's program.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Communications Faculty

**Professors**

Barney, Ralph D. (1971) BS, Brigham Young U., 1957; MA, U. of Iowa, 1960; PhD, U. of Missouri, 1971.
Hainsworth, Brad E. (1984) BA, MA, PhD, U. of Utah, 1963, 1966, 1968.
Hughes, John R. (1991)
Martin, Dennis G. (1977) BA, Brigham Young U., 1967; MS, Northwestern U., 1968; PhD, U. of Illinois, 1985.
Pratte, Paul Alfred (1984) BS, MA, Brigham Young U., 1962, 1967; PhD, U. of Hawaii, 1976.
Straubhaar, Joseph D. (1994) BA, Stanford U., 1973; MA, PhD, Tufts U., 1975, 1981.
Valenti, JoAnn M. (1992) BSJ, MA, U. of Florida, 1967, 1969; PhD, U. of Michigan, 1983.
Whiting, Gordon C. (1974) BA, U. of Minnesota, 1959; MA, U. of Utah, 1961; PhD, Michigan State U., 1967.

**Associate Professors**

Bartlett, Leonard L. (1987) BA, MA, Brigham Young U., 1957, 1989.
Egan, Kathryn S. (1986) BA, U. of Utah, 1964; MSJ, Northwestern U., 1965; PhD, U. of Southern California, 1972.
Gale, Larrie Eldon (1977) BA, MA, San Diego State U., 1967, 1970; PhD, U. of Utah, 1973.
Kagel, Richard I. (1973) BA, Brigham Young U., 1968; MA, Fairfield U., 1973; PhD, Columbia Pacific U., 1980.
Mouritsen, Russell H. (1982) BA, Brigham Young U., 1969; MEd, PhD, U. of Utah, 1971, 1980.

Nelson, Jack Adolph (1977) BA, Brigham Young U., 1954; MA, U. of Utah, 1964; PhD, U. of Missouri, 1971.
Porter, William C. (1972) BA, Brigham Young U., 1961; MA, U. of California, Los Angeles, 1963; EdD, Oklahoma State U., 1985.
Rush, J. R. (1994) BS, JD, Arizona State U., 1970, 1973.
Wilson, Laurie (1989) BA, MA, Brigham Young U., 1980, 1982; PhD, American U., 1988.

**Assistant Professors**
Cressman, Dale L. (1993) BA, MA, Brigham Young U., 1985, 1989.
Stout, Daniel A., Jr. (1985) BA, Brigham Young U., 1979; MA, U. of Georgia, 1984; PhD, Rutgers U., 1993.

**Adjunct Faculty**
Anthony L. Antin, Rodger D. Duncan, Elmer Lower, Arch L. Madsen, Bruce L. Olsen

**Lecturers/Administrators**
John Gholdston, John Kent, Robert Sink, JoLynne Van Valkenburg

**Special Lecturer**
Allen Palmer

**Emeriti**
Anderson, Stephen J. (1963) BA, MA, Brigham Young U., 1959, 1967.
Barrus, George S. (1967) BS, U. of Utah, 1950; MA, Brigham Young U., 1964; PhD, U. of Iowa, 1969.
Bateman, J. LaVar (1949) BA, Brigham Young U., 1941; MS, PhD, U. of Wisconsin, Madison, 1947, 1950.
Beckham, Raymond E. (1949) BS, MA, Brigham Young U., 1949, 1969; PhD, Southern Illinois U., 1972.
Burnett, M. Dallas (1958) BS, Brigham Young U., 1954; MSJ, PhD, Northwestern U., 1958, 1967.
Butterworth, Edwin (1949) BA, U. of Utah, 1950; MA, Brigham Young U., 1954.
Haroldsen, Edwin O. (1969) BS, MS, U. of Utah, 1943, 1956; PhD, Iowa State U. of Science and Technology, 1967.
Jerome, Emerald A. (1971) BS, U. of Wisconsin, Madison, 1950; MA, Brigham Young U., 1971.
McKinlay, Lynn A. (1955) MA, Utah State U., 1974.
Rich, Owen S. (1950) BS, Brigham Young U., 1950; MA, U. of Southern California, 1953; EdD, Pennsylvania State U., 1963.
Richards, J. Morris (1965) BA, Arizona State Coll., 1929; MA, U. of Arizona, 1937.
Richardson, Jed J. (1955) BS, MS, Utah State U., 1950, 1955.
Tarbox, Norman C. (1960) BS, U. of Utah, 1955; MS, Syracuse U., 1956; PhD, U. of Utah, 1979.
Wolsey, Heber G. (1963) BS, Brigham Young U., 1942; MA, Northwestern U., 1949; PhD, Michigan State U., 1967.

## Comparative Literature

See Humanities, Classics, and Comparative Literature.

# Computer Science

Dan R. Olsen, Chair
3361 TMCB, PO Box 26576, (801) 378-3027

College of Physical and Mathematical Sciences Advisement Center
1116 TMCB, PO Box 26539, (801) 378-6270

## Admission to Degree Program

The degree programs in the Department of Computer Science carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Computer science, even though it is a relatively new field, touches virtually every area of human endeavor. It is the systematic study of the algorithmic processes—their theory, analysis, design, efficiency, implementation, and application. Fundamentally, computer science is a science of abstraction—creating the right model for a problem and devising the right computer manipulations to solve it.

The BS curriculum is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board (CSAB).

The degree programs in computer science concentrate on the fundamental techniques and knowledge used in designing and implementing information processing systems, with emphasis on systems software design and computer organization.

## Career Opportunities

Graduates from the Computer Science Department find ready employment in almost any area of computer use.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Computer Science |
| Minor | Computer Science Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Computer Science |
| PhD | Computer Science |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

Majors are selected on the basis of overall GPA, performance in the fundamental courses, and availability of openings in the program.

Computer science majors, especially those planning graduate work, are advised to acquire a strong background in mathematics, possibly a minor.

Personnel in the College of Physical and Mathematical Sciences Advisement Center will advise regarding the fundamental and core courses, major admittance, and suggested General Education. Questions regarding curriculum and career decisions should be directed to the undergraduate advisor in the Computer Science Department.

Fundamental courses to be completed by all majors are CS 142, 143, 235, Math 119, Phscs 121.

**Note:** All hours of credit applied toward a major in computer science must be of C– or better and must be taken within eight years of declaring the computer science fundamentals major. Any exceptions must be approved by the department. Students may choose to graduate under later requirements by updating their date of entry into the major at the college advisement center.

## BS Computer Science (79–81 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   CS 142, 143, 235, 236, 240, 252, 312, 330, 345, 380, 404.
   ECEn 220.
3. Complete the following supporting courses:
   Engl 316.
   Math 119, 343.
   Phscs 121, 122.
   Stat 321.
4. Select two courses from the following (If you choose to take Chem 106, you must also take Chem 107 concurrently. This will only count as one class to fill this section):
   Biol 130, 276.
   Chem 105, 106 (must take 107 also).
   Geol 111.
   Phscs 221, 222.
   Zool 204, 205.
5. Select four courses from 400-level computer science courses.
6. Select one additional course from 400- or 500-level computer science courses.

   **Note:** CS 598R requires senior or graduate status in computer science and departmental approval before registering.

*Hours include courses that may fulfill GE or university requirements.

## Minor Computer Science Teaching (19 hours)

Complete the following:
CS 142, 143, 235, 236, 240, 302.

## Computer Science (CS)

### Undergraduate Courses

**103. Elementary Computer Applications.** (2:2:0) F, W, Sp, Su
Computer organization, problem solving, and information systems, emphasizing use of the computer for problem solving and developing programming skills.

**130. Scientific Computing—C.** (2:2:2) F, Su
Computer programming for engineering and science students using C.

**142. Introduction to Computer Programming.** (3:3:0) F, W, Sp, Su Prerequisite: knowledge of algebra.
Introduction to object-oriented program design and development. Principles of algorithm formulation and programming, including pointers, using PASCAL.

**143. Introduction to Computer Organization.** (2:2:0) F, W, Sp, Su Prerequisite: knowledge of algebra.
Fundamentals of computer organization and operation. Memory structure, registers, arithmetic and logical functions, instruction formats, addressing modes, machine and assembly languages, and internal-external data representation.

**199R. Computer Science Cooperative Education.** (1–3:0:0 ea.) F, W, Sp, Su Prerequisite: department's consent.
Internship or cooperative education experience with an organization outside BYU.

**235. Foundations of Computer Science 1.** (4:4:0) F, W, Sp, Su Prerequisite: CS 142.
Iteration, induction, recursion, analysis of algorithms; mathematically analyzing application of data models, trees, lists, sets; object-oriented implementation of abstract data types.

**236. Foundations of Computer Science 2.** (4:4:0) F, W, Sp, Su Prerequisite: CS 235.
Continuation of CS 235; relations, graphs, automata, grammars, propositional and predicate logic.

**240. Advanced Programming Concepts.** (3:3:0) F, W Prerequisite: CS 236.
Advanced software development with an object-oriented focus. Development and testing of several 1500 to 2000 line modules from formal specifications. UNIX and C++ environment.

**252. Introduction to Computational Theory.** (3:3:0) F, W, Alt. term Prerequisite: CS 236.
Finite automata, regular expressions, grammars, language, Turing machines, computability.

**302. Computer Science Education.** (3:3:0) F, W Prerequisite: Math 112 or 119; CS 103 or 142.
Curriculum development and course design for the computer science teacher in secondary schools.

**312. Algorithm Analysis.** (3:3:0) F, W, Alt. term Prerequisite: CS 240, 252.
Analysis of algorithms including searching, sorting, graphs, and trees.

**330. Concepts of Programming Languages.** (3:3:0) F, W, Sp Prerequisite: CS 240, 252.
Principles and concepts characterizing high-level computer programming languages, process and data abstraction, encapsulation, inheritance, functional programming, logic programming, scanners, and parsers.

**345. Operating Systems Design.** (3:3:0) F, W, Sp, Su Prerequisite: CS 380 or concurrent registration.
Principles and concepts of operating systems design and the implementation of an operating system.

**380. Computer Architecture.** (3:3:0) F, W, Alt. term Prerequisite: ECEn 220, CS 240.
Memory and addressing, arithmetic schemes, data channels, order codes, microprogramming, and multiprocessors.

**404. Ethics and Computers in Society.** (3:3:0) F, W, Alt. term Prerequisite: Engl 316; junior standing.
Societal impact of computer technology, the computer scientist's place in society, ethical issues. Reading, discussion, and writing seminar.

**428. Software System Design and Implementation.** (3:3:0) Alt. sem., Alt. term Prerequisite: CS 312, 330.
Analysis, design, implementation, and testing of significant software systems.

**429. Software Testing.** (3:3:0) F Prerequisite: CS 312, 330.
Strategies for testing large systems compared and critiqued, with opportunities to test actual systems.

**431. Algorithmic Languages and Compilers.** (3:3:0) Alt. sem., Alt. term Prerequisite: CS 312, 330.
Formal description of algorithmic languages and techniques used in their compilation: semantics, ambiguities, procedures, replication, iteration, recursion.

**450. Introduction to Digital Signal and Image Processing.** (3:3:0) On dem. Prerequisite: CS 312, 330.
One- and two-dimensional signal-processing fundamentals, including sampling, noise, transforms, filtering, enhancement, and compression. Hands-on experimentation with speech, music, still images, and full-motion video.

**452. Database Modeling Concepts.** (3:3:0) F, W, Prerequisite: CS 312, 330.
Database models: relational, network, hierarchical, deductive, object-oriented. Integrity constraints, query languages, database design.

**453. Advanced Data Structures.** (3:3:0) F, W, Sp, Su Prerequisite: CS 312, 330.
File organization and management, external data structures, database implementation, including concurrency control, transaction processing, and distributed databases.

**455. Computer Graphics.** (3:3:0) Alt. sem., Alt. term Prerequisite: CS 312, 330, and instructor's consent.
Interactive computer graphics systems programming and architecture.

**456. Introduction to User Interface Software.** (3:3:0) Prerequisite: CS 312, 330.
Introduction to software architectures and techniques for graphical user interfaces. Input devices, windowing systems, event-driven programming, interactive geometry.

**460. Computer Communications and Networking.** (3:3:0) F, W Prerequisite: CS 312, 380.
Introduction to data communications and computer networking. Communications fundamentals, computer networks, software, architecture, telecommunications, regulation, standards.

**470. Introduction to Artificial Intelligence.** (3:3:0) F Prerequisite: CS 312, 330.
Computers in problem solving, natural language understanding, theorem proving, game playing, robot development, and related areas.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501R. Special Topics in Computer Science.** (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: instructor's consent.
Special subjects as announced before each semester.

**510. Formal Languages and Syntactic Analysis.** (3:3:0) F, Alt. term Prerequisite: CS 431 or instructor's consent.
Definition of formal grammars and algorithms for syntactic analysis.

**512. Analysis of Algorithms.** (3:3:0) W Prerequisite: CS 252, 312, or instructor's consent.
Survey of important algorithms. Connections to theoretical computer science and the analysis of algorithms.

**521. Pattern Recognition.** (3:3:0) W Prerequisite: CS 330, 453, or instructor's consent.
Design and use of pattern classifiers for recognition and classification of one- and two-dimensional signals such as voice, images, and handwriting. Emphasis on images.

**525. Software Creation.** (3:3:0) F Prerequisite: CS 428.
Concepts of object-oriented software development and their incorporation into various object-oriented analysis and design techniques.

**531. Compiler Theory and Design.** (3:3:0) Alt. yr. Prerequisite: CS 431.
Theory and design of compilers and interpreters, including syntax-directed compilers and metacompilers.

**532. Advanced Programming Languages and Models.** (3:3:0) Alt. yr. Prerequisite: CS 431.
Definitions and implementation techniques for functional languages, logic languages, and object-oriented languages. Interactive languages and interactive programming environments.

**535. (CS-Psych 577) Human-Computer Interaction.** (3:3:0) F Prerequisite: graduate or senior standing.
Human/machine interfaces for hardware/ software integration. Psychological principles of computer interfacing. Human engineering, ergonomics, and software design principles for user-friendly applications.

**544. Advanced Operating Systems.** (3:3:0) F, Alt. term Prerequisite: CS 345.
Advanced operating system concepts and design techniques, including concurrency, distributed systems, networking, synchronization, multitasking, etc.

**545. Process Control Systems.** (3:3:0) W Prerequisite: CS 345.
Concurrent and distributed real-time operating systems and programming environments for industrial automation.

**550. Computer Vision 1.** (3:3:0) F Prerequisite: calculus and senior or graduate standing or instructor's consent. Recommended: linear algebra.
Machine vision, image segmentation, mathematical morphology, image enhancement and filtering edge detection, feature extraction, neighborhood operators, region growing, boundary detection, scene segmentation, and matching.

**551. Relational Database Theory.** (3:3:0) F, Alt. term Prerequisite: CS 452 or equivalent.
Relational algebra and calculus; dependency and normalization theory.

**552. Object-Oriented Database Systems.** (3:3:0) Prerequisite: CS 452.
Analysis, specification, design, and implementation of object-oriented database systems; theory of object-oriented database models and systems.

**554. Distributed Databases.** (3:3:0) Prerequisite: CS 452 or equivalent.
Distributed DBMS design, architecture, query processing and optimization, data allocation, transaction management, concurrency control, recovery, integrity and security, deadlock handling.

**555. Advanced Computer Graphics.** (3:3:0) W Prerequisite: CS 455 or instructor's consent.
Advanced computer graphics systems programming and architecture, including ray tracing, radiosity, animator, and physically based modeling.

**556. Interactive Software Systems.** (3:3:0) W Prerequisite: CS 330, 455.
Techniques to implement human/ computer interfaces. Primitive interactive techniques. Grammar, automata, procedure, object- based dialogue descriptions. Tools for automatically generating and evaluating user interfaces. Screen layout; data presentation tools.

**560. Computer Networks.** (3:3:0) W Prerequisite: CS 460, Stat 321.
Computer networking, software architecture, organization, protocols, routing, global networks, local networks, internetworking, standards, and applications.

**561. Theoretical Foundations of Computer Science.** (3:3:0) W, Su Prerequisite: CS 312 or instructor's consent.
Formal languages, automata theory, sequential machines, enumerability, computability, and undecidability.

**565. Data Security.** (3:3:0) W Prerequisite: CS 404. Recommended: CS 453, 560.
Data security problems and solutions. Protection of stored or transported data. Data security principles. Hardware and software systems; mathematical, technical, and legal considerations.

**572. Machine Learning.** (3:3:0) Prerequisite: Math 119 or equivalent and graduate or senior standing.
Algorithms; approaches and philosophy of machine learning emphasizing symbolic/AI approaches.

**575. Expert Systems Design.** (3:3:0) W Prerequisite: CS 470 or instructor's consent.
Knowledge-based systems, fundamentals of knowledge engineering, rule-based systems, tools for expert system development.

**576. Intelligent Tutoring.** (3:3:0) Alt. term Prerequisite: CS 575 or instructor's consent.
Taxonomy of knowledge-based computer-assisted instruction; design and evaluation of intelligent tutoring models.

**578. Neural Networks and Connectionist Computing.** (3:3:0) F Prerequisite: CS 380, Math 113.
Neurally inspired computer architectures and methods of computation and learning using massively parallel networks.

**580. High-Performance Computer Architecture.** (3:3:0) Prerequisite: CS 380, ECEn 425, or equivalent.
Advanced topics in computer architecture, including pipelining, superpipelining, VLIW, superscalar, branch prediction, and speculative execution.

**584. Parallel Processing.** (3:3:0) Prerequisite: CS 380 or equivalent.
Theoretical and practical study of parallel processing, including a discussion of parallel architectures, parallel programming languages, and parallel algorithms.

**586. Formal Methods in Computer System Design.** (3:3:0) Prerequisite: CS 236, 380, or equivalent.
Use of specification and verification in the design of computer systems. Introduction to mechanical theorem-proving environments.

**598R. Special Projects.** (1–3:0:0 ea.) Prerequisite: instructor's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Computer Science Faculty

**Professors**
Barrett, William A. (1987) BA, PhD, U. of Utah, 1974, 1978.
Burton, Robert Preece (1974) PhD, U. of Utah, 1973.
Campbell, Douglas M. (1971) BA, Harvard U., 1967; PhD, U. of North Carolina, 1971.
Christensen, Larry C. (1983) BA, Brigham Young U., 1963; MA, Central Michigan U., 1968; EdD, Brigham Young U., 1981.
Cornell, Aurel (1980) MS, PhD, Polytechnic Inst. of Timisoara, Rumania, 1960, 1971.
Embley, David W. (1982) BA, MS, U. of Utah, 1970, 1972; PhD, U. of Illinois, 1976.
Hays, Bill (1970) BS, East Texas State U., 1963; MS, U. of Iowa, 1967; PhD, Northwestern U., 1970.
Higgins, John C. (1961) BA, MA, Brigham Young U., 1958, 1960; PhD, U. of California, Berkeley, 1966.
Ivie, Evan Leon (1979) BS, BES, Brigham Young U., 1956, 1956; MS, Stanford U., 1957; PhD, Massachusetts Inst. of Technology, 1966.
Norman, Theodore A. (1970) BS, U. of Utah, 1962; MS, PhD, Washington State U., 1968, 1970.
Olsen, Dan R. (1985) BS, MS, Brigham Young U., 1976, 1978; PhD, U. of Pennsylvania, 1981.
Stokes, Gordon E. (1969) BS, Brigham Young U., 1961; MS, U. of Idaho, 1969; EdD, Brigham Young U., 1981.
Woodfield, Scott N. (1985) BA, MA, Brigham Young U., 1975, 1978; PhD, Purdue U., 1980.

**Associate Professors**
Beus, H. Lynn (1971) BA, Brigham Young U., 1961; MS, Case Inst. of Technology, 1964; PhD, Case Western Reserve U., 1967.
Martinez, Tony R. (1987) BA, Brigham Young U., 1982, MA, PhD, U. of California, Los Angeles, 1983, 1986.
McClurg, Lynn E. (1972) BGE, U. of Nebraska, 1966; MS, U. of Southern California, 1972; EdD, Brigham Young U., 1978.

**Assistant Professors**
Clement, Mark J. (1994) BS, MS, Brigham Young U., 1985, 1989; PhD, Oregon State U., 1994.
Egbert, Parris (1992) BS, Utah State U., 1986; MS, PhD, U. of Illinois, 1990, 1992.
Flanagan, Kelly J. (1993) BS, MS, PhD, Brigham Young U., 1988, 1989, 1993.
Morse, Bryan S. (1994) BS, MS, Brigham Young U., 1986, 1990; PhD, U. of North Carolina, 1994.
Ng, Yiu Kai (Dennis) (1991) BS, Brigham Young U., 1982; MS, Brigham Young U., 1984; PhD, Kansas State U., 1991.
Whitehurst, Alan (1995) BS, Brigham Young U., 1983; MS, Johns Hopkins U., 1985; PhD, U. of Illinois, 1995.
Windley, Phillip J. (1993) BS, U. of Idaho, 1982; MS, PhD, U. of California, Davis, 1988, 1990.

**Lecturer**
Ivie, William E. (1964) BS, Brigham Young U., 1974.

**Emeriti**
Burton, Robert C. (1964) BS, Brigham Young U., 1956; PhD, U. of North Carolina, 1963.
Dean, C. Edwin (1949) BS, MS, Brigham Young U., 1948, 1952; MS, U. of Michigan, 1955.
Robison, Parley P. (1967) BS, U. of Utah, 1958.
Todd, Henry S. (1982) BES, MS, Brigham Young U., 1960, 1965; MS, U. of Rochester, 1968; PhD, U. of Arizona, 1973.
Wright, Norman Edward (1963) BS, Brigham Young U., 1951.

**Adjunct Professors**
Ashton, Alan C. (1972) BA, PhD, U. of Utah, 1966, 1970.
Tate, Karen E. (1989) BA, PhD, U. of Utah, 1977, 1988.
Urie, Paul McKay (1989) BS, Brigham Young U., 1971; PhD, MD, U of Utah, 1975, 1979.

James K. Archibald and Brent E. Nelson of the Electrical and Computer Engineering Department are assisting with computer science courses and graduate programs by approval of the Computer Science Department.

# Czech

See Germanic and Slavic Languages.

# Dance

Sara Lee Gibb, Chair
294 RB, PO Box 22005, (801) 378-5087

College of Physical Education Advisement Center
205 RB, PO Box 22117, (801) 378-3638

## Admission to Degree Program

The degree programs in the Department of Dance carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Dance is an art form expressed and communicated through human movement. Throughout history, and in every culture, people have danced. Dance incorporates the physical, mental, emotional, and spiritual aspects of each individual in creating a unique nonverbal expression of thoughts and feelings. As both process and product, dance has the power to refine neuromuscular skill, broaden understanding, increase creative potential, and expand aesthetic sensitivity. At Brigham Young University, dance celebrates the best in humankind and strives to enrich the lives of all who experience it.

## Career Opportunities

The majority of career opportunities in dance are teaching and performance related. Demand for graduating BYU dance teachers in the public schools continually exceeds the supply. Teaching opportunities are also available in colleges and universities (for those with graduate degrees), private studios, health and fitness spas, special and adult education programs, day care centers, and recreation programs. Several BYU dance graduates are currently employed as performers and teachers in professional dance companies. Others find employment as performers in theatrical, television, and film production.

Less common, but equally rewarding dance careers are also available to those who desire to be choreographers, dance administrators, therapists, critics, historians, researchers, notators, and reconstructors.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BA Dance
Emphases:
- Ballet
- Ballroom Dance
- Composite Dance
- Modern Dance

BA Dance Education
(secondary teacher certification)

BFA Music Dance Theatre

Minors Dance
Options:
- Ballet
- Ballroom Dance
- Composite Dance
- Folk Dance
- Modern Dance
- Dance Education

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Dance

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

The Department of Dance is made up of four divisions: Ballet, Ballroom Dance, Folk Dance, Modern Dance. These divisions work cooperatively to provide opportunities for all students at the university to develop their potential in dance.

Besides the wide variety of courses (numbered 100–199) that apply toward the university requirement for physical education, there are professional courses that develop leadership, performance, and choreographic ability in all types of dance. Performing opportunities are provided in on-campus concerts and off-campus performances with groups that tour throughout the world.

**Requirements**

1. Majors are counseled to maintain the following body composition guideline for health and aesthetic body image, as measured by skin-fold caliper or hydrostatic assessment:

   *Women:* 22–14 percent body fat.
   *Men:* 15–8 percent body fat.

2. Any grade below C– in major or minor courses is not acceptable for graduation. Dance technique courses require a grade of at least B– for advancement to next level.
3. R courses may not be used more than once for major elective credit without approval.

## BA Dance: Ballet Emphasis (68 hours*)

**Major Requirements**

1. At least 29 hours from items 3 to 9 below must be completed at BYU.
2. After consulting with an advisor, complete the following prerequisite courses:
   Math 97 or equivalent.
   PhyS 100.
   Zool 260, 261.
3. Complete the following (qualified students may substitute higher-level technique courses for required lower-level technique courses with permission from the Department of Dance):
   Dance 135, 231, 241R, 242, 261, 270, 280, 290, 291R, 355, 362, 364, 369, 460, 461, 469.
   PE 363.
4. Select one course from the following:
   Dance 171, 172.
5. Select one course from the following:
   Dance 184, 185.
6. Complete 16.5 hours from the following:
   Dance 293R, 390R, 391R, 393R, 490R, 493R.
7. Complete 4 hours of the following:
   Dance 498R.
8. Complete the following:
   Dance 367, 396.
9. Complete the following:
   Dance 292, 494R, 495R.

*Hours include courses that may fulfill GE or university requirements.

## BA Dance: Ballroom Dance Emphasis (57.5–59.5 hours*)

**Major Requirements**

1. At least 24 hours from items 3 to 9 below must be completed at BYU.
2. After consulting with an advisor, complete the following prerequisite courses:
   Math 97 or equivalent.
   PhyS 100.
   Zool 260, 261.
3. Complete the following:
   Dance 135, 184, 185, 231, 241R, 242, 261, 270, 280, 290, 291R, 355, 362, 364, 369, 460, 461, 469.
   PE 363.
4. Select one course from the following:
   Dance 171, 172.
5. Select 7 hours from the following:
   Dance 284, 285, 380R, 384R, 385R, 483R, 485R.
6. Select two semesters of performance courses from the following:
   Dance 388R, 488R, 500R.
7. Complete the following:
   Dance 386.
8. Complete the following:
   Dance 399R (2 hours required), 486R.

*Hours include courses that may fulfill GE or university requirements.

## BA Dance: Composite Dance Emphasis (64–66 hours*)

**Major Requirements**

1. At least 26.5 hours from items 3 to 10 below must be completed at BYU.
2. After consulting with an advisor, complete the following prerequisite courses:
   Math 97 or equivalent.
   PhyS 100.
   Zool 260, 261.
3. Complete the following:
   Dance 135, 231, 241R, 242, 261, 270, 280, 290, 291R, 355, 362, 364, 369, 460, 461, 469.
   PE 363.
4. Select one course from the following:
   Dance 171, 172.
5. Select one course from the following:
   Dance 184, 185.
6. Select 10 hours from the following technique support electives:
   Dance 235, 241R, 271, 284, 285, 293R, 331, 335, 340R, 371, 380R, 384R, 385R, 390R, 391R, 393R, 440R, 483R, 485R, 490R, 493R, 494R, 495R, 540R.
7. Select two semesters of performance courses from the following:
   Dance 232R, 278R, 368R, 378R, 388R, 468R, 478R, 488R, 498R.
8. Complete the following:
   Dance 462.
9. Select 3 hours from the following methodology support electives:
   Dance 336, 365, 366, 367, 376, 386, 396.
10. Select 5 hours from the following Dance/PE electives:
    Any dance class not used to fulfill other requirements from Dance 130, 133, 134R, 171, 172, 184, 185, 200 or higher (excluding Dance 260, 326, 356).
    PE 462.

*Hours include courses that may fulfill GE or university requirements.

## BA Dance: Modern Dance Emphasis (64.5–66.5 hours*)

**Major Requirements**

1. At least 27 hours from items 3 to 10 below must be completed at BYU.
2. After consulting with an advisor, complete the following prerequisite courses:
   Math 97 or equivalent.
   PhyS 100.
   Zool 260, 261.
3. Complete the following:
   Dance 135, 231, 241R, 242, 261, 270, 280, 290, 291R, 355, 362, 364, 369, 460, 461, 469.
   PE 363.
4. Select one course from the following:
   Dance 171, 172.
5. Select one course from the following:
   Dance 184, 185.
6. Select 12.5 hours from the following:
   Dance 241R, 340R, 440R, 540R.
7. Select two semesters of performance courses from the following:
   Dance 368R, 468R.
8. Complete the following:
   Dance 462.
9. Select 3 hours from the following:
   Dance 365, 366, 367.
10. Complete the following:
    Dance 363, 390R, 464.

*Hours include courses that may fulfill GE or university requirements.

## BA Dance Education (99–105 hours,* including certification hours)

**Major Requirements**

1. At least 22.5 hours from item 4 below must be completed at BYU.
2. A teaching minor is required for graduation (approximately 16–21 hours).
3. After consulting with an advisor, complete the following prerequisite courses:
   Math 97 or equivalent.
   PhyS 100.
   Zool 260, 261.
4. Complete the following:
   Dance 130, 132R, 241R, 242, 261, 270, 280, 290, 336, 340R, 355, 362, 363, 364, 366, 367, 369, 376, 386, 460, 461, 462, 464, 466, 469.
   PE 363.
5. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BFA Music Dance Theatre (77–78 hours*)

The BFA in music dance theatre is an interdisciplinary degree offered by the College of Fine Arts and Communications through the cooperative involvement of its Department of Music and Department of Theatre and Film and the College of Physical Education's Department of Dance.

**Major Requirements**

1. Apply and audition for acceptance into the program during the first semester of registration.
2. Pass a proficiency examination in each of the three areas at the end of each semester.
3. At least 40 hours must be completed at BYU.
4. Any grade below C– in major courses is not acceptable for graduation. Dance technique courses require a grade of B– for advancement to the next level.
5. Complete the following:
   Music 113, 161, 261, 290.
6. Complete 4 hours of the following:
   Music 260R.
7. Complete 6 hours of the following:
   Music 360R.
8. Complete the following:
   Dance 131, 134R, 135, 231, 235, 241R, 242, 290, 291R, 331, 361, 363, 390R.
9. Complete the following:
   ThF 121, 122, 123, 124R, 127R, 323R, 361, 522R.
10. Select one course from the following:
    ThF 324R, 423R, 424R, 523R, 524R.
11. Complete the following MDT Seminar courses:
    Music 228.
    Dance 228.
    ThF 228.
12. Complete the following History of Music Dance Theatre courses:
    Music 300.
    Dance 300.
    ThF 300.
13. Complete the following Senior Performance Project courses:
    Music 426R.
    Dance 426R.
    ThF 426R.
14. Select 2 hours from the following (on-campus performance experience):
    Music 319R.
    Dance 229R, 429R.
    ThF 240R, 540R.
15. Select 1 hour from the following (off-campus experience):
    Music 399R.
    Dance 399R.
    ThF 399R.
16. Complete 4.5 hours of electives in music, dance, or theatre courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor Dance (18.5–20.5 hours*)

1. At least 10 hours must be completed at BYU.
2. Core courses: complete the following:
   Dance 240R (or 241R for modern dance option), 260, 261, 270, 280, 290, 364.
3. Elective courses: select hours as specified from one of the following options:
   a. Ballet option (8 hours):
      Dance 291R, 292, 390R, 391R, 396.
      2 hours from Dance 231, 242, 293R, 393R, 490R, 493R, 494R, 495R, 498R.
   b. Ballroom dance option (7.5 hours):
      Dance 386.
      4.5 hours from Dance 184, 185, 284, 285, 380R, 384R, 385R, 483R, 485R.
      2 hours from Dance 388R, 488R.
   c. Composite dance option (7.5 hours):
      1 or 2 hours from Dance 336, 365, 366, 367, 376, 386, 396.
      Electives (repeats not permissible) from all dance courses numbered 200 or higher (excluding 356, 460, 461) up to a total for the option of 7.5 hours. A maximum 1 credit may be selected from Dance 130, 133, 134R, 135, 171, 172, 184, 185.
   d. Folk dance option (8.5 hours):
      Dance 172, 173R, 271, 292, 371, 376, 471.
      2 hours from 278R, 378R, 478R.
   e. Modern dance option (7.5 hours):
      Dance 242, 362, 363, 366.

*Hours include courses that may fulfill GE or university requirements.

## Minor Dance Education (21 hours*)

1. At least 10.5 hours must be completed at BYU.
2. Complete the following:
   Dance 130, 190, 241R, 242, 260, 261, 355, 362, 363, 364, 366, 376, 386, 466.

*Hours include courses that may fulfill GE or university requirements.

## Dance (Dance)

### Undergraduate Courses

**130. Aerobic Dance.** (0.5:0:2) Independent Study also.
Dance and other rigorous activities performed to music to attain cardiovascular fitness.

**131. Jazz Dance, Beginning.** (0.5:0:2)

**132R. Precision Dance, Beginning.** (0.5:0:2 ea.)
Various styles including marching, jazz, military, novelty.

**133. Movement for Theatre.** (0.5:0:2)
Developing the body in terms of strength, flexibility, responsiveness, and freedom of movement.

**134R. Specialty Dance.** (0.5:0:2 ea.)

**135. Tap Dance, Beginning.** (0.5:0:2)

**140. Modern Dance, Beginning.** (0.5:0:2)

**164. Movement for Musicians.** (0.5:0:2)
Developing strength, flexibility, responsiveness, centering, breath, and freedom of movement through both fine and gross motor activities.

**170. Folk Dance, Beginning.** (0.5:0:2)
Dances from selected cultures at the beginning skill level.

**171. Clog Dance, Beginning.** (0.5:0:2)
Beginning steps and technique, emphasizing slide/drag.

**172. Country Western and Square Dance.** (0.5:0:2)
Fundamental dance skills in western styles of country, round, and square dance.

**173R. Ethnic Dance.** (0.5:0:2 ea.)
Ethnic dances of a specific culture selected from Chinese, Irish, Polynesian, Ukranian, or others.

**180. Social Dance, Beginning.** (0.5:0:2) Independent Study also.
Traditional and popular ballroom dance; also social skills.

**181. Country Western Social Dance, Beginning.** (0.5:0:2)
Beginning popular country western dance.

**184. Ballroom Dance, International Standard, Beginning.** (0.5:0:2)
Bronze level. Waltz, foxtrot, tango, quickstep.

**185. Ballroom Dance, International Latin, Beginning.** (0.5:0:2)
Bronze level. Cha-cha, rumba, samba, jive, paso doble.

**190. Ballet, Beginning.** (0.5:0:2)
Fundamentals of ballet technique for those with little or no previous training.

**228. Music Dance Theatre Seminar.** (1:Arr.:Arr.) Prerequisite: concurrent registration in Music 228 and ThF 228.
Intensive integration of music, dance, and theatre for the performer. For music dance theatre BFA majors only.

**229R. Dance Performance 1.** (1–3:Arr.:Arr. ea.) Prerequisite: production director's consent.
Participation as dancers in concert dance production.

**231. Jazz Dance, Intermediate.** (1:0:3) Prerequisite: Dance 131 or equivalent; 240R or 290.

**232R. Precision Dance, Performance.** (1:0:3 ea.) Prerequisite: Dance 132R or equivalent and audition.
Cougarettes performing company.

**235. Tap Dance, Intermediate.** (1:0:3) Prerequisite: Dance 135 or equivalent.

**240R. Modern Dance Technique and Theory 1.** (1.5:0:4.5 ea.)
Fundamental dance skills and basic theories.

**241R. Modern Dance Technique and Theory 2.** (2.5:0:7.5 ea.) Prerequisite: Dance 240R or equivalent experience in modern dance.

**242. Studio Workshop in Modern Dance.** (3.5:0:9) Prerequisite: Dance 241R, 261, or equivalent.
Technique, improvisation, and composition in a workshop structure.

**260. Introduction to Dance.** (3:3:0) Honors also.
Critical analysis of dance as a cultural and expressive art, including relationship of dance to other art forms. No previous experience in dance required.

**261. Orientation to Dance Forms.** (1:2:0)
Philosophical approach to understanding current dance forms. Contemporary trends and professional opportunities within broad spectrum of dance.

**270. Folk Dance, Intermediate.** (1:0:3) Prerequisite: Dance 170 or equivalent.
Dances from selected cultures appropriate at the intermediate skill level.

**271. Clog Dance, Intermediate.** (1:0:3) Prerequisite: Dance 171 or equivalent.
Intermediate steps and technique; buck styling; introduction to choreography.

**278R. Folk Dance Performance Techniques.** (1:0:3 ea.) Prerequisite: audition.

**280. Social Dance, Intermediate.** (1:0:3) Prerequisite: Dance 180 or equivalent.

**281. Country Western Social Dance, Intermediate.** (1:0:3) Prerequisite: Dance 172, 181, or equivalent.
Intermediate-level instruction in popular country western dances.

**284. Ballroom Dance, International Standard, Intermediate.** (1:0:3) Prerequisite: Dance 184 or equivalent.
Silver level. Waltz, foxtrot, tango, quickstep.

**285. Ballroom Dance, International Latin, Intermediate.** (1:0:3) Prerequisite: Dance 185 or equivalent.
Silver level. Cha-cha, rumba, samba, jive, paso doble.

**290. Ballet Accelerated Technique 1.** (2.5:0:7.5) Prerequisite: dance major standing or instructor's consent.

**291R. Ballet Technique 2.** (1:0:3 ea.) Prerequisite: Dance 290 or equivalent.

**292. Character Dance.** (0.5:0:2)
Male and female techniques of traditional national folk forms stylized with classical ballet discipline.

**293R. Ballet Pointe, Beginning.** (0.5:0:1 ea.) Prerequisite: concurrent registration in Dance 291R.

**300. History of Music Dance Theatre.** (1:1:0) Prerequisite: concurrent registration in Music 300 and ThF 300.
Dance in Western tradition from classical antiquity to present, emphasizing union of music, dance, theatre.

**326. Rhythm and Dance.** (2:1:2)
Methodology course for elementary education majors; creative dance and structured rhythmic dance forms.

**331. Jazz Dance, Advanced.** (1.5:0:4.5) Prerequisite: Dance 231 or equivalent; 241R, 242, or 291R.

**335. Tap Dance, Advanced.** (1:0:3) Prerequisite: Dance 235 or equivalent.

**336. Aerobic Dance Teaching Techniques.** (1:2:2) Prerequisite: Dance 130, Dance 369 or PE 362, PE 363. Recommended: FSN 100.

**340R. Modern Dance Technique and Theory 3.** (2.5:0:7.5 ea.) Prerequisite: Dance 241R or equivalent experience in modern dance.

**355. Dance Production, Introduction.** (2:2:2)
Principles and practices of technical aspects of dance production.

**356. Rhythmic Activities Through Dance.** (2:2:2) F Prerequisite: physical education K–12 major status.
Structured dance forms for the physical education public school teacher: folk dance, aerobic dance, and American social dance styles. Methodology.

**358R. Dance Improvisation Performance.** (2:0:6 ea.) Prerequisite: audition.
Impulse dance company experiences in improvisation as a performing art.

**361. Music Dance Theatre Choreographic Styles.** (2:0:3)
Physical and conceptual aspects of dance styles as they relate to music dance theatre.

**362. Dance Composition, Intermediate.** (1:0.5:2.5) Prerequisite: Dance 242.
Fundamental compositional structure emphasizing visual, kinesthetic, and musical aspects.

**363. Dance Improvisation, Intermediate.** (1:0:3) Prerequisite: Dance 242.

**364. Rhythm Analysis for Dance.** (1:1:1)
Relationship of rhythm to movement, sound, and musical accompaniment.

**365. Dance Movement Education for Elementary School Teachers.** (1:1:2)
Theory and teaching experience in creative movement for preschool and elementary school children.

**366. Modern Dance Teaching Methods.** (2:2:2) Prerequisite: Dance 242 or equivalent, 261.
Planning, teaching, and evaluating lessons.

**367. Children's Dance Methods.** (1:2:1) Prerequisite: Dance 242.

**368R. Modern Dance Choreography and Performance.** (1:1:2 ea.) Prerequisite: audition.
Dancensemble dance company experiences in modern dance choreography and performance for concert settings.

**369. Kinesiology for Dancers.** (4:4:0) Prerequisite: Zool 260, PhyS 100 or equivalent.

**371. Clog Dance, Advanced.** (1:0:3) Prerequisite: Dance 271 or equivalent.
Advanced technique and steps; buck and Canadian styling and free styling.

**376. Folk Dance Teaching Techniques.** (1:1:2) Recommended: Dance 170 or equivalent.

**378R. Folk Dance, Advanced Performance.** (1:0:3 ea.) Prerequisite: audition.

**380R. Social Dance, Advanced.** (1:0:3 ea.) Prerequisite: Dance 280 or equivalent.

**384R. Ballroom Dance, International Standard, Advanced.** (1:0:3 ea.) Prerequisite: Dance 284 or equivalent.
Gold level. Waltz, foxtrot, tango, quickstep.

**385R. Ballroom Dance, International Latin, Advanced.** (1:0:3 ea.) Prerequisite: Dance 285 or equivalent.
Gold level. Cha-cha, rumba, samba, jive, paso doble.

**386. Social Dance Teaching Techniques.** (1:1:2) Recommended: Dance 180 or equivalent.

**388R. Ballroom Dance Performance, Intermediate.** (1:0:3 ea.) Prerequisite: audition.
Performance techniques and experience in ballroom dance.

**390R. Ballet Technique 3.** (1:0:3 ea.) Prerequisite: Dance 291R or equivalent.

**391R. Ballet Technique 4.** (1.5:0:4.5 ea.) Prerequisite: audition.

**393R. Ballet Pointe, Intermediate.** (0.5:0:2 ea.) Prerequisite: concurrent registration in Dance 390R and 391R.

**396. Ballet Methodology.** (2:2:2) Prerequisite: Dance 390R or equivalent.
Teaching classical ballet from preballet through advanced; includes analysis of Bournonville, Cecchetti, Vaganova, RAD, Kneeland, and SAB methods.

**399R. Cooperative Education: Dance Internship.** (1–4:0:50 ea.)

**426R. Music Dance Theatre: Senior Performance Project.** (1:0:5 ea.) Prerequisite: ThF 361; concurrent registration in Music 426R and ThF 426R.

**429R. Dance Performance 2.** (1–3:Arr.:Arr. ea.) Prerequisite: production director's consent.
Participation as dancers in concert dance production.

**440R. Modern Dance Technique and Theory 4.** (2.5:0:7.5 ea.) Prerequisite: Dance 340R or equivalent.

**460. Dance History 1.** (2:2:0)
Tribal cultures, ancient, and medieval historical periods.

**461. Dance History 2.** (3:3:0)
Renaissance through modern historical periods, emphasizing Western civilization's dance and music.

**462. Dance Composition, Advanced.** (1:0:3) Prerequisite: Dance 362.
Creation and presentation of complete choreographic works.

**464. Dance Accompaniment.** (1:1:1) Prerequisite: Dance 364.

**466. Dance Teaching Practicum.** (1:1:2)
Pre–student teaching course giving students practical teaching experience in a mentored environment. A discussion lab integrates theory and experience.

**468R. Modern Dance Performance Company.** (2:0:6 ea.) Prerequisite: audition.
Performance techniques and experience with The Dancers' Company.

**469. Senior Seminar in Dance.** (2:1:2)

**471. Dance—A Reflection of Culture.** (2:2:0) Prerequisite: Dance 376.
A study of dance as an expression of culture.

**478R. Folk Dance Performance Company.** (1:0:3 ea.) Prerequisite: audition.
Performance techniques and experience with International Folk Dance Ensemble.

**483R. Ballroom Dance, International Standard, Advanced 2.** (1:0:3 ea.) Prerequisite: Dance 384R, gold medal with minimum score of 92 percent.
Gold bar level: waltz, tango, fox-trot, quickstep.

**485R. Ballroom Dance, International Latin, Advanced 2.** (1:0:3 ea.) Prerequisite: Dance 385R, gold medal with minimum score of 92 percent.
Gold bar level: cha cha, rumba, samba, jive, paso doble.

**486R. Theory and Notation of International Style Ballroom Dance.** (2:2:2 ea.) Prerequisite: Dance 384R, 385R.
Study of theory and notation of International Ballroom Dance and preparation for Professional Teaching Certification Examinations.

**488R. Ballroom Dance Performance Company.** (2:0:3 ea.) Prerequisite: audition.
Performance techniques and experience with BYU Ballroom Dance Team.

**490R. Ballet Technique 5.** (2.5:0:2.5 ea.) Prerequisite: audition.

**493R. Ballet Pointe, Advanced.** (0.5:0:1 ea.) Prerequisite: concurrent registration in Dance 490R.

**494R. Ballet Variations.** (0.5:0:2 ea.) Prerequisite: Dance 391R and 393R or equivalents.

**495R. Pas de Deux.** (0.5:0:1 ea.) Prerequisite: audition.
Ballet partnering techniques.

**498R. Ballet Performance Company.** (2:0:Arr. ea.) Prerequisite: audition and concurrent registration in Dance 490R; 493R (females only) and 494R or 495R.
Performance technique and experience with BYU Theatre Ballet.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500R. Workshop in Dance.** (1–3:1:6 ea.)
Experience with Workshop in Dance: aerobic, ballet, ballroom, folk, modern.

**540R. Modern Dance Technique and Theory 5.** (2:0:5 ea.) Prerequisite: Dance 340R or instructor's consent.
Advanced technique, with movement combinations emphasizing dance as a performance art.

**555. Dance Production.** (2:2:2) Prerequisite: Dance 355 or equivalent.
Technical aspects of dance production.

**562R. Modern Dance Composition, Advanced.** (1:0:4 ea.) Prerequisite: Dance 362 or instructor's consent.
Development of substantive modern dance compositional works based on intent, form, and content relationships.

**563R. Modern Dance Improvisation, Advanced.** (1:0:4 ea.) Prerequisite: Dance 363 or instructor's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Dance Faculty

**Professors**
Davis, Susanne Johnson (1974) BS, MS, Brigham Young U., 1967, 1971.
Gibb, Sara Lee (1965) BA, MS, Brigham Young U., 1959, 1970.

**Associate Professors**
Allen, Sandra Birch (1969) BFA, MFA, U. of Utah, 1964, 1967.
Austin, Edwin G. (1984) BS, MA, Brigham Young U., 1978, 1980.
Black, Catherine H. (1972) BPE, U. of Alberta, Canada, 1968; MFA, U. of Utah, 1972.
Debenham, Hadd Patrick (1976) BS, Brigham Young U., 1973; MA, U. of California, Los Angeles, 1976.
Prohosky, Caroline (1986) BS, Brigham Young U., 1972; MA, U. of California, Los Angeles, 1980.
Wakefield, Bernard Lee (1980) BA, MA, Brigham Young U., 1977, 1982.

**Assistant Professors**
Berrett, Marilyn (1985) BA, U. of Utah, 1979; MA, Brigham Young U., 1984.
Musil, Pam (1993) BA, MA, Brigham Young U., 1978, 1985.
Phillips, Rebecca (1994) BA, Brigham Young U., 1987; MFA, U. of Utah, 1990.

**Adjunct Assistant Professor**
Sowell, Debra Hickenlooper (1990) BA, Brigham Young U., 1975; MA, Tufts U., 1980; PhD, New York U., 1990.

**Instructors**
Anderson, Colleen (1993) BA, MA, Brigham Young U., 1983, 1985.
Holman, Curt (1993) BA, Brigham Young U., 1989.
Lanham, Mark (1989).

**Part-Time Instructors**

Vickie Austin, Connie Burton, Yi-Qi Cheng, Richard Chitwood, Marci Edgington, Jeanette Geslison, Claudia Hill, Kim Lanham, Jodi Maxfield, Janalyn Memmott, Christine Ollerton, Delynne

Peay, Kathleen Sheffield, Lynne Thompson, Graciela Torino, Linda Wakefield, Peggy Wright.

**Emeriti**

Jacobson, Phyllis C. (1957) BS, MS, Utah State U., 1953, 1954; PhD, U. of Utah, 1971.

Jensen, Mary Bee (1952) BA, Park Coll., 1939; MA, Brigham Young U., 1963.

Lyman, Emerson S. (1973) BS, MA, Brigham Young U., 1957, 1968; EdS, U. of Utah, 1972.

## Danish

See Germanic and Slavic Languages.

## Design

See Visual Arts

## Dutch

See Germanic and Slavic Languages.

# Economics

Farrell E. Jensen, Chair
130 FOB, PO Box 22363, (801) 378-4057

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Economics are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Economics examines how societies choose to allocate scarce resources among competing uses. A broad range of contemporary policy issues are studied in fields such as: food, agriculture, and natural resource economics; economic development and growth, international trade and finance, economic history, the organization of industries, the development and efficiency of law, business cycles, labor markets, and public and private finance.

## Career Opportunities

Professional economists basically work in three fields. Some work in business, others in government, and some choose academic careers. The lifestyles of these groups vary greatly, making the decision of which career to adopt an important one.

Business economists forecast and analyze various aspects of the economy for their employers. They often work for banks, insurance companies, investment firms, and large manufacturing firms. The career of business economics is increasingly recognized as one of the routes to top management (National Association of Business Economists, 1989).

Government economists accumulate, interpret, and analyze national and international statistics in order to suggest proper policy. They work for agencies such as the State Department, the Treasury, the Bureau of Labor Statistics, and the Department of Commerce. The jobs available in government are numerous and varied.

Academic economists teach and conduct research at colleges and universities around the world.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Economics |
| BA | Economics Teaching |
| BA | Honors in Economics and University Honors |
| BS | Economics |
| | Emphasis (optional): Agricultural Economics |
| Minors | Economics |
| | Economics Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## BA Economics (40–57 hours*)

### Major Requirements

1. No more than 3 hours of D credit are allowed in major courses.
2. Minimum residence requirement is 21 hours in the major.
3. Major courses: complete the following:
   Econ 110, 378, 380, 381, 382, 388.
4. Supporting courses: complete the following:
   Math 112.

   **Note:** Math 113 is strongly recommended for students contemplating graduate work in economics.
5. Complete GE Foreign Language or 7 hours of mathematics in addition to Math 112.
6. Select 15 hours from the following (at least 12 hours must be from courses 410–588):
   Econ 210, 211, 215, 230, 235, 240, 253, 257, 260, 273, 274, 275, 410, 413R, 415, 421, 430, 440, 450, 453, 458, 459, 460, 463, 468, 474, 475, 476, 478, 486, 580, 581, 582, 586, 588.

*Hours include courses that may fulfill GE or university requirements.

## BA Economics Teaching (79–85 hours,* including certification hours)

**Major Requirements**

1. No more than 3 hours of D credit are allowed in major courses.
2. Minimum residence requirement is 21 hours in the major.
3. Complete an approved teaching minor (approximately 16–21 hours).
4. Complete the following:
   Econ 110, 378, 380, 381, 382, 388.
5. Select 15 hours from the following (at least 12 hours must be from 413R–588):
   Econ 210, 211, 213R, 215, 230, 235, 240, 241, 253, 257, 260, 273, 274, 275, 410, 413R, 415, 421, 430, 440, 450, 453, 458, 459, 460, 463, 468, 474, 475, 476, 478, 486, 580, 581, 582, 586, 588.
6. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Economics and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BS Economics (37 hours*)

**Major Requirements**

1. No more than 3 hours of D credit are allowed in major courses.
2. Minimum residence requirement is 21 hours in the major.
3. Major courses: complete the following:
   Econ 110, 378, 380, 381, 382, 388.
4. Supporting courses: complete the following:
   Math 112.

   **Note:** Math 113 is strongly recommended for students contemplating graduate work in economics.
5. Select 15 hours from the following (at least 12 hours must be from courses 410–588):
   Econ 210, 211, 213R, 215, 230, 235, 240, 241, 253, 257, 260, 273, 274, 275, 410, 413R, 415, 421, 430, 440, 450, 453, 458, 459, 460, 463, 468, 474, 475, 476, 478, 486, 580, 581, 582, 586, 588.

*Hours include courses that may fulfill GE or university requirements.

## BS Economics: Agricultural Economics Emphasis (37 hours*)

**Major Requirements**

1. No more than 3 hours of D credit are allowed in major courses.
2. Minimum residence requirement is 21 hours in the major.
3. Major courses: complete the following:
   Econ 110, 378, 380, 381, 382, 388.
4. Supporting courses: complete the following:
   Math 112.

   **Note:** Math 113 is strongly recommended for students contemplating graduate work in economics.
5. Complete the following:
   Econ 410, 440, 460.
6. Select 6 hours from the following (at least 3 hours must be from courses 413R–588) (Choose only one in each of the following sets: Econ 230 or 430; 257 or 458; 240 or 440):
   Econ 210, 211, 215, 230, 235, 240, 253, 257, 260, 273, 274, 275, 410, 413R, 415, 421, 430, 440, 450, 453, 458, 459, 460, 463, 468, 474, 475, 476, 478, 486, 580, 581, 582, 586, 588.
7. Students interested in management careers are encouraged to also enroll in the agribusiness management minor.

*Hours include courses that may fulfill GE or university requirements.

## Minor Economics (18 hours*)

1. Complete the following:
   Econ 110, 381.
2. Select one course from the following:
   Econ 280, 380.
3. Select 9 additional hours in economics courses.
4. No more than 3 hours of D credit are allowed in courses used to fulfill minor requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Economics Teaching (18 hours*)

1. Complete the following:
   Econ 110, 381.
2. Select one course from the following:
   Econ 280, 380.
3. Complete 9 additional hours in economics.

*Hours include courses that may fulfill GE or university requirements.

## Economics (Econ)

### Undergraduate Courses

**110. Economic Principles and Problems.** (3:3:0) Honors and Independent Study also.

Strengths and weaknesses of markets and governments for solving problems of social organization or conflict, including policy response to inflation, unemployment, pollution, poverty, growth, etc.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: faculty advisor's and department chair's prior written consent.
Not counted toward required major or minor hours.

**210. Introduction to Agricultural Markets.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Economic principles, policies, practices, and problems in marketing agricultural products.

**211. Economics of Agricultural Production.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Application of economics to the operation of agricultural production systems, including planning, decision making, and adjustments for uncertainty.

**213R. Topics in Economic Analysis.** (1–3:Arr.:Arr. ea.) Prerequisite: Econ 110 or equivalent.

**215. History of Economic Thought.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Development of economic doctrines from preclassical through contemporary economics. Contributions of individual writers and schools of thought.

**230. Economic Development.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Problems and processes of economic growth and development, emphasizing less-developed nations.

**235. Economics of World Food Policy.** (3:3:0) Prerequisite: Econ 110.
Economic principles applied to world food markets; trade theory and policy; impact of international food policies on markets, hunger, comparative advantage, efficiency.

**240. Introduction to Natural Resource and Environmental Economics.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Applying basic economic principles to the proper allocation of natural resources; our relationship to the environment.

**241. Comparative Economic Systems.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Economic models and principles; analysis and comparison of capitalist, market socialist, and centrally planned economic systems.

**253. Money and Banking.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Economic principles applied to monetary analysis and policy and the banking structure.

**257. International Trade and Finance.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Economic analysis of the mechanisms, problems, institutions, and policies of trade among countries. Financial and monetary arrangements that facilitate trade.

**260. Introduction to U.S. Food Policy.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Analysis of policies affecting agricultural efficiency and distribution.

**273. European Economic History.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Origins and development of major economic institutions in Europe from medieval era to present time.

**274. American Economic History.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Impact on households, firms, and government of America's transformation from a rural, agricultural colony to a major industrial nation.

**275. Public Finance.** (3:3:0) Prerequisite: Econ 110 or equivalent.
Economics of decision making in the public sector; cost-benefit analysis and efficiency-equity issues of taxation and expenditure policies.

**280. Introduction to Economic Analysis and Reasoning.** (3:3:0) Prerequisite: Econ 110 or equivalent. Not for majors or major credit.
Maximizing self-interest model of behavior and the environment, and constraints within which business and household decisions are made.

**378. Statistics for Economists.** (3:3:0) Prerequisite: Econ 110, Math 112.
Introduction to matrix algebra and statistics concluding with simple regression analysis. Other topics include: probability, random variables, density and distribution functions, estimation, hypothesis testing.

**380. Intermediate Price Theory 1.** (3:3:0) Prerequisite: Econ 110; Math 112 or concurrent registration.
Producer, consumer, and equilibrium theories; mathematical techniques of unconstrained and constrained optimization introduced and applied extensively.

**381. Intermediate Macroeconomics.** (3:3:0) Prerequisite: Econ 110; Math 112 or concurrent registration.
Intermediate macroeconomic theory, emphasizing income, unemployment, and price-level analysis.

**382. Intermediate Price Theory 2.** (3:3:0) Prerequisite: Econ 380.
Welfare theory, imperfect information, imperfect competition, uncertainty, externalities, and public goods.

**388. Introduction to Econometrics.** (3:3:0) Prerequisite: Econ 378, 380.
Mathematical and statistical techniques used in estimating, predicting, and testing hypotheses associated with quantifiable economic relationships.

**410. Agricultural Markets.** (3:3:0) Prerequisite: Econ 378, 380.
Application of supply and demand concepts to price determination and analysis in agricultural markets.

**413R. Topics in Economic Theory.** (1–5:Arr.:Arr. ea.) Prerequisite: Econ 380 and/or 381, depending on topic.

**415. History of Economic Thought.** (3:3:0) Prerequisite: Econ 380, 381.

**421. Law and Economics.** (3:3:0) Prerequisite: Econ 378, 380.
Common law allocative mechanisms (contract, tort, and property law) as alternatives to collective intervention when markets fail; consideration of economic logic of law.

**430. Economic Development.** (3:3:0) Prerequisite: Econ 380, 381.

**440. Economics and Natural Resources.** (3:3:0) Prerequisite: Econ 378, 380.
Economic theory applied to issues in natural resource development and use. Rent, common property situations, time and resource conversion and depletion, market failure, public choice theory, and rudimentary benefit/cost analysis.

**450. Economics of Financial Markets.** (3:3:0) Prerequisite: Econ 378, 380, 382.
Theory of financial economics emphasizing capital markets, investment decisions, choice, capital asset pricing model, futures and options markets, efficient markets, and capital structures.

**453. Theory of Money and Banking.** (3:3:0) Prerequisite: Econ 380, 381.

**458. International Trade Theory and Applications.** (3:3:0) Prerequisite: Econ 380, 381.
Analysis of the theory of exchange, specialization, and trade, focusing on nature of the allocational problem when distinct economies interact.

**459. International Monetary Theory.** (3:3:0) Prerequisite: Econ 378, 380, 381.
Monetary and macroeconomic aspects of international relations dealing primarily with short-run balance-of-payments disequilibrium and adjustments.

**460. Economics of U.S. Food Policy.** (3:3:0) Prerequisite: Econ 380, 382.
Analysis of public programs, policies, issues, external forces, and institutions that affect the agricultural industry.

**463. Economics of the Labor Market.** (3:3:0) Prerequisite: Econ 378, 380.

**468. Urban Economics.** (3:3:0) Prerequisite: Econ 378, 380.
Economic models relating to spatial location of economic activities and development of cities. Application of economic theory to problems and policies associated with housing, urban transportation, congestion, local government finance, and other urban problems.

**474. Topics in Economic History.** (3:3:0) Prerequisite: Econ 378, 380.

**475. Theory of Public Finance.** (3:3:0) Prerequisite: Econ 378, 380.

**476. Industrial Organization.** (3:3:0) Prerequisite: Econ 378, 380, 382.

**478. Game Theory and Economics.** (3:3:0) Prerequisite: Econ 378, 380.
Application of game theory to study strategic interaction between individuals and organizations. Applications include imperfect competition, insurance markets, and bargaining.

**486. Mathematical Economics.** (3:3:0) Prerequisite: Econ 378, 380.
Further development of optimization and comparative statics. Differential equations and dynamic analysis.

**490. Senior Paper.** (1:0:0) Prerequisite: instructor's consent.

**498R. Readings in Economics.** (1–2:Arr.:0 ea.) Prerequisite: instructor's consent.
P/F grade only; maximum of 2 credit hours; 3 hours of reading per week required for each credit hour taken. Not counted toward required major hours.

**499R. Honors Thesis.** (1–6:0:0 ea.) Prerequisite: instructor's consent.

## 500-Level Graduate Courses (available to advanced undergraduates)

**580. Advanced Price Theory.** (3:3:0) Prerequisite: Econ 378, 380, 382.
Individual behavior and markets.

**581. Advanced Macroeconomics.** (3:3:0) Prerequisite: Econ 378, 380, 381, 382.
Income, unemployment, and price-level analysis.

**582. Welfare Economics.** (3:3:0) Prerequisite: Econ 378, 380, 382.
General equilibrium theorems and considerations that must guide applied economic work and provide quantitative information on the effects of alternative policy measures.

**586. Mathematical Economics.** (3:3:0) Prerequisite: Econ 380, 381, 382, or equivalent.
Mathematical modeling of economic behavior.

**588. Econometrics.** (3:3:0) Prerequisite: Econ 378, 380, 381, 382, 388.
Theory and practice of economic measurement.

**599R. Cooperative Education: Supervised Management and Training.** (2–6:0:Arr. ea.) Prerequisite: course work pertinent to proposed experience.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Economics Faculty

**Professors**

Butler, Richard J. (1982) BA, U. of Utah, 1973; MA, PhD, U. of Chicago, 1979.
Jensen, Farrell E. (1982) BS, Utah State U., 1964; MS, PhD, Kansas State U., 1966, 1972.
Kearl, J. R., (1975) BA, Utah State U., 1971; PhD, Massachusetts Inst. of Technology, 1975.
McDonald, James B. (1972) BS, MS, Utah State U., 1964, 1967; PhD, Purdue U., 1970.
Park, William Laird (1977) BS, MS, Utah State U., 1957, 1958; PhD, Cornell U., 1963.
Pope, C. Arden, III (1984) BS, Brigham Young U., 1978; MS, PhD, Iowa State U., 1981.
Pope, Clayne L. (1970) BA, Brigham Young U., 1965; MA, PhD, U. of Chicago, 1968, 1972.
Pope, Rulon D. (1982) BS, Brigham Young U., 1971; PhD, U. of California, Berkeley, 1976.
Spencer, David E. (1986) BA, Brigham Young U., 1971; MS, PhD, Texas A&M U., 1973, 1974.
Wimmer, Larry T. (1963) BS, Brigham Young U., 1960; MA, PhD, U. of Chicago, 1962, 1968.

**Associate Professors**

Lambson, Val E. (1989) BA, Brigham Young U., 1979; MA, PhD, U. of Rochester, 1982, 1983.
Ransom, Michael R. (1988) BA, Brigham Young U., 1977; MA, PhD, Princeton U., 1980, 1983.

**Assistant Professors**

Eide, Eric R. (1993) BS, MS, Brigham Young U., 1988, 1989; PhD, U. of California, Santa Barbara, 1993.
Manning, Richard L (1990) BA, Brigham Young U., 1982; MA, PhD, U. of Chicago, 1984, 1989.
Pender, John (1992) BS, California Inst. of Technology, 1978; MPP, U of California, Berkeley, 1983; PhD, Stanford U., 1992.
Phillips, Kerk L. (1992) BS, Brigham Young U., 1986; MA, PhD, U. of Rochester, 1990, 1991.
Showalter, Mark (1991) BA, Brigham Young U., 1986; PhD, Massachusetts Inst. of Technology, 1991.
Snow, Karl N. (1995) BA, Brigham Young U., 1985; MA, PhD, U. of Chicago, 1986, 1991.
Thurston, Norman (1995) BA, Brigham Young U., 1990; MA, PhD, Princeton, 1993, 1995.
Timothy, Darren (1995) BA, Brigham Young U., 1990; PhD, Massachusetts Inst. of Technology, 1996.

**Emeriti**

Clark, Wayne Walter (1962) BA, Brigham Young U., 1952; PhD, Texas A&M U., 1960.
Corbridge, Ivan L. (1952) BA, Utah State U., 1946; MS, U. of Chicago, 1948, PhD, Washington State U., 1952.
Dutton, Dean S. (1968) BA, U. of Utah, 1964; MA, PhD, Michigan State U., 1966, 1968.
Gardner, B. Delworth (1986) BS, MS, U. of Wyoming, 1952, 1954; PhD, U. of Chicago, 1960.
Infanger, Carlton A. (1964) PhD, Montana State U., 1964.
James, Sydney C. (1983) BS, MS, Utah State U., 1953, 1957; PhD, Oregon State U., 1960.
Nelson, Glen T. (1955) BS, MS, Utah State U., 1942, 1948; PhD, U. of Illinois, 1950.

# Educational Leadership

Ivan Muse, Chair
310 MCKB, PO Box 26410, (801) 378-4291

## Graduate Programs and Degrees

| | |
|---|---|
| MEd | Educational Leadership |
| EdD | Educational Leadership |
| PhD | Educational Leadership |

For more information see the 1996–97 BYU Graduate Catalog.

## Educational Leadership (ELdr)

### Undergraduate Course

**452. The Professional Teacher.** (2:2:0) F, W, Sp, Su Independent Study also.
Professional, historical, philosophical, sociological, and financial aspects of education in the United States.

### 500-Level Graduate Courses (available to advanced undergraduates)

**515R. Special Topics in Education.** (1–3:3:1 ea.) F, W, Su Credit earned in 515R is not counted toward graduate degrees.

**517. Professional and Scholarly Writing in Education.** (2:2:Arr.) F, W, Su
Refining skills for professional writing efforts, e.g., memoranda, reports, articles, theses, etc. Practice and corrective feedback.

**532. Gifted and Talented: Programs.** (2:2:Arr.)
Varied programs for gifted and talented students in the schools.

**535. Gifted and Talented: Curriculum and Instruction.** (2:2:2)
Designing curriculum and instruction for gifted and talented students in the schools.

**537. Gifted and Talented: Creativity.** (2:2:Arr.)
Nature of creativity and approaches to nurturing it.

**539R. Gifted and Talented: Practicum.** (1–4:Arr.:Arr. ea.)
Experience in a school setting under the direction of college faculty.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Educational Leadership Faculty

**Professors**

Muse, Ivan D. (1970) BS, Brigham Young U., 1955; MEd, U. of Arizona, 1958; EdD, U. of Utah, 1966.
Ovard, Glen F. (1965) BS, MS, Brigham Young U., 1949, 1954; EdD, Stanford U., 1959.
Patterson, Robert S. (1961) BEd, MEd, U. of Alberta, Canada; PhD, Michigan State U., 1968.
Van Alfen, Curtis N. (1967) BS, MS, Utah State U., 1957, 1959; EdD, U. of Utah, 1967.
Wasden, F. Del (1971) BS, MEd, EdD, Brigham Young U., 1961, 1966, 1971.

**Associate Professors**

Butterfield, Dennie D. (1974) BA, Bri Young U., 1955; MA, Fresno State Coll., 1962; EdD, U. of California, Los Angeles, 1972.
Webb, Clark D. (1966) BA, MA, Brigham Young U., 1964, 1966; PhD, U. of Texas, Austin, 1970.

**Assistant Professors**

Hite, Steven (1991) BS, MS, Brigham Young U., 1980, 1982; EdD, Harvard U., 1985.
Peterson, Erlend D. (1966) BS, MS, EdD, Brigham Young U., 1967, 1971, 1985.
Randall, Vance (1992) BS, MEd, Brigham Young U., 1975, 1978; PhD, Cornell U., 1989.

**Emeriti**

Andersen, Dan W. (1980) BS, U. of Utah, 1952; MS, U. of Southern California, 1955; PhD, U. of Wisconsin, Madison, 1961.
Christensen, Dean C. (1957) BS, MS, Utah State U., 1938, 1948; EdD, U. of Oregon, 1957.
Garfield, Rulon Roy (1978) BS, MA, PhD, U. of Utah, 1954, 1956, 1964.
Harms, Callis R. (1960) BS, MEd, Brigham Young U., 1952, 1956; EdD, Arizona State U., 1961.
Heaton, Israel C. (1956) BS, MS, Utah State U., 1940, 1941; EdD, DRE, Indiana U., Bloomington, 1955.
Hungerford, Curtiss R. (1977) BA, Stanford U.; MA, PhD, U. of Southern California, 1956, 1967.
Hyatt, Norman F. (1970) BS, MS, Brigham Young U., 1948, 1949; EdD, U. of Oregon, 1964.
Oakes, Keith R. (1957) BS, MS, Utah State U., 1940, 1948; EdD, U. of Southern California, 1954.
Shute, R. Wayne (1974) BS, MEd, Brigham Young U., 1955, 1959; EdD, U. of Southern California, 1964.
Smith, Ralph B. (1963) BS, Brigham Young U., 1943; MA, U. of Southern California, 1947; EdD, Brigham Young U., 1962.

# Educational Psychology

Ronald D. Bingham, Chair
328 MCKB, PO Box 25072, (801) 378-3857

College of Education Advisement Center
120 MCKB, PO Box 25096, (801) 378-3426

## Admission to Degree Program

Both degree programs in the Department of Educational Psychology are open enrollment.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Audiology |
| BS | Speech-Language Pathology |
| Minor | Audiology |
| | Speech-Language Pathology |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Audiology |
| MS | Counseling and Guidance |
| MS | School Psychology |
| MS | Special Education* |
| MS | Speech-Language Pathology |
| PhD | Counseling Psychology |

For more information see the 1996–97 BYU Graduate Catalog.

*Contact Department of Educational Psychology for information.

## BS Audiology (56 hours*)

### The Discipline

Audiology is a relatively new discipline that relies on technology to deal with its primary concern, the measurement of hearing and hearing loss. Audiology includes studying the nervous system to learn how we sense, perceive, and derive information from the sense organs. Audiology students also learn about the development of speech and language, the anatomy and physiology of the ear, a variety of electronic test instruments that reveal the function of the intricate processes involved in hearing, and disorders and diseases of hearing. Physicians use audiological findings to diagnose and treat hearing problems. This information is also used in counseling the hearing impaired and for prescribing hearing aids. Teachers use the knowledge to understand and help children with hearing impairments.

### Career Opportunities

This is a preprofessional program leading to a master's degree that is required for entrance into the profession.

### Major Requirements

1. Complete the following:
   EPsy 133, 230, 310, 320, 321, 330, 331, 334, 350, 351, 434, 438, 444.
   ASL 101.
   Math 110.
   Phscs 167.
   Stat 222.
   Zool 260.
2. Complete 1 hour from the following:
   IS 286.
3. Complete 1 hour from the following:
   EPsy 485R.

*Hours include courses that may fulfill GE or university requirements.

## BS Speech-Language Pathology (57 hours*)

### The Discipline

The discipline of speech-language pathology emerged to help people who have lost or have never had the ability to speak normally. It serves persons with speech and language disorders such as stuttering, articulation problems, aphasia, voice problems, language delay, and similar disabilities. Students learn about speech/language development, the anatomy and physiology of the speech mechanism, the neurology of perception and production of speech and language, impairments that cause speech and language disorders, and communication disorders remediation. Professionals work in public schools, hospitals, private or community clinics, or private practice.

### Career Opportunities

This is a preprofessional program leading to a master's degree that is required for entrance into the profession.

### Major Requirements

1. Complete the following:
   EPsy 133, 230, 310, 320, 321, 330, 331, 334, 350, 351, 438, 444, 450, 458, 459.
   Math 110.
   Phscs 167.
   Stat 222.
   Zool 260.
2. Complete 1 hour from the following:
   IS 286.

*Hours include courses that may fulfill GE or university requirements.

## Minor Audiology

Contact the College of Education Advisement Center (120 MCKB) for information.

## Minor Speech-Language Pathology (15 hours)

1. Linguistics majors:
   a. Complete the following:
      EPsy 133, 330, 350, 351 (after taking phonetics).
   b. Select one course from the following:
      EPsy 320 (after taking Zool 260), 321, 444, 458.
2. Majors in other departments:
   a. Complete the following:
      EPsy 133, 230, 330, 331.
   b. Select one course from the following:
      EPsy 350, 351.

## Educational Psychology (EPsy)

### Undergraduate Courses

**133. Introduction to Speech-Language Pathology and Audiology.** (3:3:1) F, W, Alt. term
Overview of communication disorders, assessment strategies, and treatments.

**205. Principles of Learning.** (3:3:0) F, W, Su
Principles of learning, the learning process, readiness, individual differences, and motivation.

**230. Language Science.** (3:3:1) F
Morphology, syntax, and semantic roles in language of children and adults; uses both manual and computer-assisted methods.

**305. Special Education: Introduction to Theory and Practice.** (4:4:0) F, Sp Prerequisite: EPsy 102R, 204, 205, and concurrent registration in 380R.

**310. Principles in Case Management.** (3:3:2) W Prerequisite: EPsy 133, 330, 331.
Principles of applied clinical science in managing speech and language disorders; apprenticeship required.

**320. Speech Anatomy.** (3:3:1) F Prerequisite: Zool 260.
Basic anatomy and physiology of speech mechanisms.

**321. Speech Science.** (3:3:0) W Prerequisite: EPsy 320, Phscs 167.
Laboratory investigation of scientific bases of normal and disordered speech perception and production; for audiologists and speech language pathologists.

**330. Language Development.** (3:3:1) F
Overview of how children learn language, including its relationship to cognitive, neural, and social development; language development in bilingual, minority, and handicapped persons.

**331. Phonology.** (3:3:1) F
Transcription and analysis of normal and disordered sound production.

**334. Basic Hearing Science.** (2:2:1) W Prerequisite: Phscs 167.
Hearing anatomy, physiology, and science.

**350. Language Disorders.** (3:3:1) W Prerequisite: EPsy 330, 331.
Causes and characteristics of language impairment; techniques for diagnosis, assessment, and treatment of language disorders.

**351. Disorders of Articulation and Phonology.** (3:3:0) W Prerequisite: EPsy 331.
Causes and characteristics of phonological disorders; techniques for diagnosis, assessment, and treatment.

**380R. Field Experience in Special Education.** (2:Arr.:Arr. ea.) F, Sp Prerequisite: EPsy 102R, 204, 205, and concurrent registration in 305; prior application. Fee.

**400. Exceptional Students: Principles of Collaboration.** (2:1:Arr.) F, W Prerequisite: admission to early childhood, elementary, or secondary education program.
Basic principles and legislative issues in effectively communicating and collaborating with professionals, parents, and other service providers in meeting needs of individuals with disabilities in inclusive, educational environments. Lab.

**405. Special Education Advanced Theory and Practice.** (4:4:0) W, Su Prerequisite: EPsy 305, 380R, and concurrent registration in 480R.

**434. Pediatric Audiology.** (2:2:1) W Prerequisite: EPsy 438.
Basic principles utilized in assessing hearing sensitivity of children from birth to eight years.

**438. Hearing Tests and Measures.** (3:3:1) F Prerequisite: EPsy 334.
Theory and practice of auditory assessment.

**444. Speech and Language for the Hearing Impaired.** (3:3:3) F, W
Overview of aural habilitation and rehabilitation in children and adults.

**450. Speech-Language Pathology in the Schools.** (2:2:0) W Prerequisite: EPsy 310, 350, 351.
Overview of issues related to clinical practice in public school settings.

**458. Fluency Disorders.** (3:3:1) F
Assessment and treatment of fluency disorders, including stuttering.

**459. Diagnosis in Speech-Language Pathology.** (3:3:3) W Prerequisite: EPsy 350, 351.
Appraisal and diagnosis of speech and language problems.

**480R. Prepracticum Experience—Mild/Moderate Disabilities.** (2:Arr.:Arr. ea.) W, Su Prerequisite: EPsy 102R, 204, 305, 380R, and concurrent registration in EPsy 405; advisor's consent; prior application. Fee.

**481R. Prepracticum Experience—Severe/Profound Disabilities.** (2:Arr.:Arr. ea.) F, W, Sp Prerequisite: EPsy 204, 405, and concurrent registration in EPsy 519; advisor's consent; prior application. Fee.

**485R. Practicum in Speech-Language Pathology and Clinical Audiology.** (1–5:Arr.:Arr. ea.) F, W, Sp, Su

**490R. Seminar in Audiology and Speech-Language Pathology.** (1–2:2:0 ea.) F

**493R. Readings.** (1–2:Arr.:Arr. ea.) F, W, Sp, Su

**496R. Internship in Special Education.** (1–12:Arr.:Arr. ea.) Prerequisite: departmental approval of application; placement one semester in advance of registration.
Practicing individual and group skills, testing and other techniques and responsibilities consistent with advanced training. Fee.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. Clinical Data Acquisition and Analysis.** (3:3:0) F, Alt. term Prerequisite: Stat 222.
Research methods in audiology and speech-language pathology. Applying statistical techniques; professional literature and writing.

**501. Test and Measurement Theory.** (3:3:0) F, W, Su Independent Study also (no graduate degree credit given for Independent Study).
Basic test and measurement theories. Types of tests. Reliability and validity. Standardization and test construction.

**502. Child/Adolescent Psychopathology and Interventions in Schools.** (3:3:0) W, Su
Etiology and diagnosis of dysfunctional behavior and maladjustment, with interventions for school-age children.

**503. Education of Individuals with Mild and Moderate Disabilities.** (3:0:0) F, W, Su Prerequisite: EPsy 405, 480R, and concurrent registration in 586R.
Developing, implementing, and evaluating instructional programs for children with mild to moderate learning difficulties.

**505. Psychoeducational Implications of Exceptionality.** (1–3:Arr.:Arr.) F

**510. Education of Individuals with Emotional and Behavioral Disabilities.** (3:3:2) F, W, Su Prerequisite: EPsy 204, 305, instructor's consent, and prior application.
Educational implications of classification and characteristics of children with emotional and behavioral problems.

**514R, 515R. Special Topics in Educational Psychology.** (1–3:3:1 ea.) F, W, Sp, Su Independent Study also. Prerequisite: instructor's consent.

**Note:** No graduate credit is given for EPsy 514. EPsy 515R credit may count toward a graduate degree if prior approval is obtained.
—Assessing Learning and Behavior
—Changing Role of the Counselor
—Classroom Behavior Management
—Current Topics in Audiology
—Current Topics in Counseling
—Current Topics in Educational Psychology
—Current Topics in Special Education
—Current Topics in Speech Pathology
—Curriculum for Exceptional Children
—Effective Teaching
—Emotionally Handicapped
—Evaluating Student Learning
—Exceptional Children in the Regular Classroom
—Gifted and Talented
—Intellectually Handicapped
—Learning Disabled
—Microcomputers in Schools
—Motivation
—Program Evaluation
—Self-Concept
—Teaching Exceptional Children
—Understanding Exceptional Children

**518. Education of the Gifted and Talented.** (2:2:2) F, W, Su Independent Study also.
Various approaches to educating the gifted and talented.

**519. Education of Individuals with Severe and Profound Disabilities.** (1–3:3:2) F, W, Su Independent Study also (no graduate degree credit given for Independent Study). Prerequisite: EPsy 102R, 204, 205, 305, and instructor's consent.
Educational implications in identifying and classifying individuals with severe and profound disabilities.

**520. Curriculum for Individuals with Mental Retardation.** (1–3:3:2) W, Su Independent Study also (no graduate degree credit given for Independent Study). Prerequisite: EPsy 519.
Instructional programs for the mentally retarded.

**521. Curriculum for Individuals with Severe and Profound Disabilities.** (1–3:3:1) W, Sp Prerequisite: EPsy 205, 305, 380R, 519.
Instructional programs for individuals with severe and profound disabilities.

**525. Education of Students with Learning Disabilities.** (3:3:3) F, W, Sp Prerequisite: instructor's consent.

**532. Assessment, Diagnosis, and Evaluation.** (–-3:2;1) Prerequisite: admission to special education master's program.
Principles and concepts of effective assessment, diagnosis, and evaluation of individuals with disabilities.

**533R. Practicum in Assessment, Diagnosis, and Evaluation.** (0.5–1:0:3 ea.) Prerequisite: admission to special education master's program.
Practicum in assessment, diagnosis, and evaluation of individuals with disabilities.

**534. Curricula and Effective Instruction.** (1–3:2:1) Prerequisite: admission to special education master's program.
Curricula, principles, and concepts in effectively teaching individuals with disabilities.

**535R. Practicum in Curricula and Effective Instruction.** (0.5–1:0:3 ea.) Prerequisite: admission to special education master's program.
Practicum in instructional content and practice for individuals with disabilities in a variety of educational settings.

**536. Managing Teaching and Learning Environments.** (1–3:2:1) Prerequisite: admission to special education master's program.
Principles, procedures, and concepts directly related to managing learning and teaching environments.

**537R. Practicum in Managing Teaching and Learning Environments.** (0.5–1:0:3 ea.) Prerequisite: admission to special education master's program.
Practicum in behavior and classroom management.

**544. Psychoacoustics.** (3:3:1) Alt. term
Advanced studies in human psychoacoustics and hearing science.

**546. Helping Relationships: Basic Concepts and Skills.** (1–3:Arr.:Arr.) F, W
Basic interviewing and helping skills. For students interested in professional, paraprofessional, peer, or lay counseling.

**573. Aphasia.** (3:3:0) W
Perspectives on the neurology, clinical assessment, and rehabilitation of aphasic language disturbances in adults.

**574. Communicative Disorders of Individuals with Severe Disabilities.** (3:3:0) F
Assessment and treatment of persons with multiple handicaps, including augmentive communication training.

**575. Motor Speech Disorders.** (3:3:0) F
Neuropathology, symptomology, clinical assessment, and treatment of adult motor speech disorders.

**580R. Directed Observation in the Schools.** (1–3:0:8 ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**581R. Practicum: Individuals with Mental Retardation.** (1–8:0:8 ea.) F, W, Sp, Su Prerequisite: EPsy 520; departmental approval of application and placement one semester in advance of registration. Fee.

**582R. Practicum: Individuals with Emotional and Behavioral Disabilities.** (1–8:0:8 ea.) F, W, Su Prerequisite: instructor's consent, EPsy 511, and prior application. Fee.

**584R. Practicum: Individuals with Learning Disabilities.** (2–8:0:8 ea.) F, W, Sp Prerequisite: EPsy 526; departmental approval of application and placement one semester in advance of registration. Fee.

**586R. Practicum: Individuals with Mild and Moderate Disabilities.** (1–8:0:8 ea.) F, W, Su Prerequisite: EPsy 503; departmental approval of application and placement one semester in advance of registration. Fee.

**588R. Practicum: Individuals with Severe and Profound Disabilities.** (1–8:0:8 ea.) W, Sp Prerequisite: concurrent registration in EPsy 521; departmental approval of application one semester in advance of registration.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Educational Psychology Faculty

**Professors**

Bingham, Ronald D. (1971) BS, Utah State U., 1961; MEd, PhD, Pennsylvania State U., 1965, 1970.

Brinton, Bonnie (1990) BA, U. of Utah, 1975; MA, San Jose State U., 1977; PhD, U. of Utah, 1981.

Fujiki, Martin (1990) BS, U. of Idaho, 1972; MS, PhD, U. of Utah, 1974, 1980.

Gale, Darwin F. (1969) BS, MS, Utah State U., 1958, 1960; EdD, Brigham Young U., 1967.

Harris, Richard (1982) BS, North Dakota State U., 1973; MS, U. of Wisconsin, 1974; PhD, Purdue U.,1978.

Hilton, Laurence M. (1985) BA, MA, U. of Utah, 1969, 1970; PhD, Northwestern U., 1973.

Ingram, Cregg F. (1975) BS, MS, U. of Utah, 1968, 1970; EdD, U. of Kentucky, 1974.

McPherson, David L. (1991) BS, Brigham Young U., 1967; MA, George Washington U., 1969; PhD, U. of Washington, 1972.

**Associate Professors**

Channell, Ron W. (1983) BS, MS, Brigham Young U., 1977, 1979; PhD, U. of Utah, 1983.

Egan, M. Winston (1993) BA, Brigham Young U., 1967; MAT, Oakland U., 1972; PhD, U. of Florida, 1974.

Richards, P. Scott (1990) BS, MS, Brigham Young U., 1981, 1983; PhD, U. of Minnesota, 1988.

Rowe, Fred A. (1972) BS, MEd, Brigham Young U., 1961, 1963; EdD, Arizona State U., 1975.

Todd, Sally M. (1972) BS, Brigham Young U., 1959; MS, PhD, U. of Arizona, 1970, 1973.

Young, James R. (1971) BA, MEd, Brigham Young U., 1965, 1966; PhD, George Peabody Coll. of Vanderbilt U., 1970.

**Assistant Professors**

Allred, Keith W. (1991) BS, MS Brigham Young U., 1976, 1983; PhD, Vanderbilt U., 1988.

Brown, Gail W. (1991) BA, Brigham Young U., 1966; MS, PhD, U. of Utah, 1983, 1988.

Dyches, Tina Taylor (1995) BS, Brigham Young U., 1986; MS, Utah State U., 1990; EdD, Illinois State U., 1995.

Fischer, Lane (1993) BS, MA, Brigham Young U., 1979, 1982; PhD, U. of Minnesota, 1991.

Hanks, Wendy (1992) BS, MCD, Brigham Young U., 1979, 1981; PhD, Wichita State U., 1985.

Lucido, Bonnie Rae (1979) BS, MS, Brigham Young U., 1964, 1966; PhD, U. of Utah, 1994.

**Instructor**

Friend, Tressa J. (1993) BS, MA, Brigham Young U., 1983, 1985.

**Clinical Instructor**

Bartholomew, Karen (1986) BS, U. of Utah, 1983; MCD, Brigham Young U., 1985.

**Emeriti**

Allred, Mildred T. Ravsten (1973) BA, MCD, Brigham Young U., 1952, 1971.

Bauer, Edith B. (1945) BA, MA, Brigham Young U., 1930, 1946; PhD, U. of California, Berkeley, 1956.

Crandell, John M. (1970) BA, MA, Arizona State U., 1951, 1957; PhD, U. of Texas, Austin, 1966.

Downing, Lester N. (1954) BS, MS, Utah State U., 1947, 1949; EdD, Colorado State Coll., 1951.

Hammond, Ruth K. (1966) BS, MS, U. of Utah, 1950, 1955; PhD, Purdue U., 1971.

Harris, James M. (1955) BS, MS, Utah State U., 1952, 1953; PhD, Cornell U., 1955.

Harrison, Betty D. (1961) BS, MS, PhD, Brigham Young U., 1959, 1960, 1965.

Kelly, Burton C. (1962) BS, Idaho State U., 1952; MS,Brigham Young U., 1955; PhD, U. of Chicago,1966.

Low, Gordon M. (1964) BS, MS, U. of Utah, 1949, 1950; PhD, U. of Minnesota, Minneapolis, 1955.

Newman, Parley W. (1966) BS, MS, Utah State U., 1950, 1951; PhD, U. of Iowa, 1954.

Rasmussen, Della Mae (1983) BA, U. of Utah, 1948; EdD, Brigham Young U., 1968.

Rohde, Norma (1965) BS, U. of Utah, 1949; MA, Columbia U., 1958; EdD, Brigham Young U.,1965.

Thomas, Glen E. (1968) BS, MEd, U. of Idaho, 1954, 1957; EdD, Colorado State Coll., 1968.

Walton, Wilbur T. (1971) BA, Brigham Young U., 1957; MS, PhD, U. of Utah, 1965, 1969.

Wilson, Marguerite I. (1956) BA, U. of Utah, 1948; MA, San Francisco State Coll., 1955; EdD, George Peabody Coll. of Vanderbilt U., 1965.
Wootton, Richard R. (1961) BS, MS, Brigham Young U., 1956, 1961; EdD, Utah State U., 1969.

The following are faculty members with assignments in Student Life who frequently teach educational psychology courses and who also serve on graduate and other committees for the Department of Educational Psychology.

Gleave, Robert, Associate Clinical Professor
Heaps, Richard A., Professor
Isakson, Richard L., Associate Professor
Jackson, Aaron P., Assistant Clinical Professor
Johnson, Richard W., Associate Clinical Professor
Kramer, Gary L. (Associate Dean, Admission and Records), Professor
Mouritsen, Maren M. (Assistant Vice President and Dean of Student Life), Associate Professor
Ruiz, Chris C., Associate Clinical Professor
Scharman, Janet S., Assistant Clinical Professor
Smith, Steven A., Assistant Clinical Professor
Ward, G. Robert, Professor
Winward, Edward J., Associate Professor
Worthen, Vaughn E., Assistant Clinical Professor

# Electrical and Computer Engineering

Brent E. Nelson, Chair
459 CB, PO Box 24099, (801) 378-4012

College of Engineering and Technology Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

The degree programs in the Department of Electrical and Computer Engineering carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Electrical and computer engineering is a field in which students learn to design such electronic systems as computers and electronic calculators; radio, television, and telephone communication systems; integrated circuit chips; robotic manufacturing systems; space vehicle and missile guidance systems; and instrumentation systems, including medical instruments.

Electrical and computer engineers are often inventors or innovators who apply their mathematics backgrounds in creating new or improved electrical/electronics products.

## Career Opportunities

Electrical and computer engineers have traditionally been among the most heavily recruited students graduating from a four-year program. Since the 1950s, the engineer has been in great demand and is offered one of the highest starting salaries of any field. The design and application of computer systems; the improvement of existing communication systems such as fiber optic systems; the development of tactical weapons; the development of robotic manufacturing systems; the application of signal processing methods to improve quality or transmission efficiency of digital information; the design of new integrated circuits; and the further development of automotive electronics, such as automatic braking systems, are a few areas in which the engineer may work.

Engineers often start their own companies after some years of industrial experience. Other engineers choose to consult in areas of concentrated experience.

A small number of electrical and computer engineers go into the law field, often as patent attorneys, and other engineers go into medical electronics or the related biomedical field.

The curriculum for a BS degree in electrical engineering is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (ABET). Graduates are educationally prepared to become licensed professional engineers. The department has requested an accreditation review during 1996 from ABET for the BS degree in computer engineering.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Computer Engineering
BS Electrical Engineering
Emphasis (optional):
International

For help or information on the undergraduate programs, please see your college advisement center.

Students interested in pursuing Honors for this program should consult with the college advisement center.

## Graduate Programs and Degrees

MEM Engineering Management
MS Electrical Engineering
PhD Engineering

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

**Preprofessional Program.** All students who declare electrical and computer engineering as a major will be designated preprofessional until an application for acceptance to the professional program (available at the college advisement center, 264 CB) has been considered and approved by the

department's professional admissions committee. Preprofessional students are not allowed to enroll in electrical and computer engineering technical courses numbered 300 or above.

**Academic Standards and Continuance.** Proficiency in electrical and computer engineering requires dedication and certain natural abilities. It is the expectation of the department that all students accepted to the professional program have already demonstrated these qualities and will possess the abilities to successfully complete the program. Progress will be measured against professional standards.

Demonstrated integrity and a willingness to honor the highest professional standards of the engineering profession are expected.

From all technical classes being taken at the time of and after acceptance into the professional program, the student is (1) required to maintain a cumulative technical GPA of at least 2.0 and (2) permitted one technical class with an original substandard grade. If the substandard grade is at least a D– and the course is not prerequisite to a required course, credit will be given for graduation. For this discussion, the GPA computed from all technical classes, except for laboratory and seminar classes but including repeats, is called a technical GPA. An "original substandard grade" is defined as an E, UW, D, or unconverted I whether or not the course is later repeated and a higher grade received.

Permanent probationary status is automatically given at the end of the semester or term to any student whose grades fall below the bounds set above. A reasonable effort will be made to notify the student by letter at the address listed by the university. Should this fail, the student is still responsible for his probationary status.

After having been sent a letter indicating that he or she is on probation, the student is suspended from the department (1) by receiving additional original substandard grades or (2) by failing to increase his or her technical GPA to 2.0 or higher after one semester of being on probationary status. In extreme cases the student, together with the departmental standards committee, may prearrange to extend the one-semester probation period with which to increase his or her technical GPA. Appeals will be considered by the departmental standards committee.

**Repeat Policy.** An electrical and computer engineering class for which the original grade received is C– or higher may not be repeated. Also, a class may only be repeated once. Sometime during the semester/term violators will be dropped from the class roll.

**Professional Registration.** The Electrical and Computer Engineering Department provides the option for graduates to become registered professional engineers. General qualifications for becoming registered are explained in the College of Engineering and Technology section of this catalog. This status is vital to engineering practice in the public sector and to much consulting work. The basic electrical and computer engineering program outlined in this department prepares graduates to successfully complete the Fundamentals of Engineering (FE) examination. Students who wish to become registered as professional engineers are advised to discuss this matter with an advisor from the department soon after admission to the professional program. The advisor will suggest those courses that can be taken within the framework of the basic program to prepare for the initial examination.

## BS Computer Engineering (93–96 hours*)

**Major Requirements**

1. Complete the following preprofessional program as soon as possible upon entering BYU:
   a. Select at least 3 hours (other than Engl 316) from item 2 below.
   b. Complete the following:
      ECEn 191.
      Math 112, 113.
      Phscs 121, 122.
   c. During the semester of completing the above, apply for professional status. (Contact the department or the college advisement center for additional details).
2. Complete the following supporting courses (either as a preprofessional or a professional student):
   a. Complete the following:
      Chem 105.
      CS 142.
      ECEn 220.
      Engl 316.
      Phscs 281.
      Stat 421.
   b. Select one of the following sequences:
      (1) For the standard math sequence, complete the following:
      Math 312, 313.
      (2) For the optional math sequence, complete the following:
      Math 343, 344, 434.

      **Note:** The optional math sequence is recommended for Honors students and those seeking an advanced degree or a minor in mathematics.
3. Complete the following professional requirements:
   a. Complete the following:
      ECEn 311, 312, 313, 317, 325, 425, 427, 451, 491, 492A,B,C.
      CS 235, 240, 345.
   b. Select one course from the following:
      MeEn 321, 401.
   c. Select one course from the following:
      CS 428, 431, 452, 453, 455, 456, 470.
   d. Select one course from the following:
      ECEn 315, 360, 450.
   e. Select courses from the list below so the credit hours from items d and e total at least 9 (at least 8 hours with a mathematics minor):
      Math 323, 332, 411.
      Phscs 471, 561.
      Selected 400- and 500-level computer science courses.
      Any 300-level ECEn course except 301R.
      Any 400- or 500-level ECEn course.

**Note:** Contact the Electrical and Computer Engineering Department for current information about added and/or deleted courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Electrical Engineering (94–97 hours*)

**Major Requirements**

1. Complete the following preprofessional program as soon as possible upon entering BYU:
   a. Complete at least 3 hours (other than Engl 316) from item 2 below.
   b. Complete the following:
      ECEn 191.
      Math 112, 113.
      Phscs 121, 122.
   c. Upon completing the above, apply for professional status. (Contact the department or the college advisement center for additional details).
2. Complete the following supporting courses (either as a preprofessional or a professional student):
   a. Complete the following:
      Chem 105.
      CS 142.
      ECEn 220.
      Engl 316.
      Phscs 281.
      Stat 421.
   b. Complete one of the following sequences:
      (1) For the standard math sequence, complete the following:
      Math 312, 313.
      (2) For the optional math sequence, complete the following:
      Math 343, 344, 434.

      **Note:** The optional math sequence is recommended for Honors students and those seeking an advanced degree.
3. Complete the following professional requirements:
   a. Complete the following:
      ECEn 311, 312, 313, 315, 316, 317, 325, 360, 361, 491, 492A,B,C.
   b. Select one course from the following:
      MeEn 321, 401.
4. Complete the following advanced program and technical electives (24 hours for the standard mathematics sequence, 23 hours for the optional mathematics sequence):
   a. Complete at least 14 hours from the advanced 400-level courses (450 and 452, 460 and 461 must be taken as pairs):
      ECEn 411, 415, 425, 443, 444, 450, 451, 452, 460, 461.
   b. Select 9–10 hours of technical elective courses from the following:
      (1) Additional courses from item 4a above.
      (2) ECEn 427 or any 500-level course.
      (3) Selected 300-level and higher courses in mechanical engineering, civil and environmental engineering, mathematics, physics, and/or computer science as posted in the department office.

**Note:** Contact the Electrical and Computer Engineering Department for current information as courses are added and/or deleted.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (101.5–106.5 hours*)

**Emphasis Requirements**

1. Complete the requirements for the electrical engineering program as outlined above.
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. In consultation with the college advisement center, select a foreign literature course or a classical civilization course.
   **Or** select one course from the following:
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
   VAHis 260.
5. An international "live-in" experience is required. It may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.
6. Write a senior paper.

**Recommended**

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Electrical and Computer Engineering (ECEn)

### Undergraduate Courses

**191. Freshman Seminar.** (0.5:1:0) F, W
Presentations by faculty and advisors, including design projects. College Lecture attendance required.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**220. Digital State Machines.** (4:3:5) F, W, Su Prerequisite: Phscs 122 or concurrent registration.
Basic elements and technologies used to make digital logic circuits; laboratory experience in construction of synchronous and asynchronous state machines. Fee.

**301R. Elements of Electrical Engineering.** (1–3:3:1 ea.) F, W, Sp Prerequisite: Phscs 122, Math 313.
Linear electrical circuits, computer organization, and logic circuits for nonmajors.

**311. Circuits Laboratory.** (1:0:3) F, W, Sp, Su Prerequisite: EcEn. 312 or concurrent registration.
Basic electrical instrumentation and measurements. Fee.

**312. Circuit Analysis.** (4:4:2) F, W, Sp Prerequisite: Phscs 122, Math 113, professional status.
Analysis of resistive circuits and RLC circuits in the sinusoidal-steady-state, resonance, Bode plots, and balanced three-phase circuits. To be taken semester of admittance to professional program.

**313. Electronic Circuit Design 1.** (4:4:2) F, W, Sp Prerequisite: ECEn 311, 312.
Analysis and design of linear and nonlinear electronic circuit building blocks.

**315. Signals and Systems.** (4:4:2) F, W, Sp Prerequisite: ECEn 312, Math 313 or 434.
Time and frequency domain analysis of discrete or continuous systems subjected to periodic or nonperiodic input signals.

**316. Signals and Systems Laboratory.** (1:0:3) F, W, Sp, Su Prerequisite: ECEn 315 or concurrent registration.
Computer simulation of continuous and discrete systems in both the time and frequency domains.

**317. Electronics Laboratory 1.** (1:0:3) F, W, Sp, Su Prerequisite: ECEn 313 or concurrent registration.
Measurement and design of basic electronic building blocks.

**325. Introduction to Computer Design with Applications.** (5:4:3) F, W Prerequisite: ECEn 220; CS 142 or equivalent.
Computer design, organization, architecture, and interfacing.

**360. Transmission Lines and Introductory Fields.** (4:4:2) F, W Prerequisite: Math 312 or 344, 313 or 434, ECEn 312.
Properties and application of transmission lines. Introduction to electric and magnetic field theory and development of Maxwell's equations.

**361. Transmission Lines and Introductory Fields Laboratory.** (1:0:3) F, W Prerequisite: ECEn 360 or concurrent registration.
Experiments and measurement techniques in static and time-varying fields. Transmission line design and measurements. Microwave generation, propagation, detection, and hardware components.

**411. Feedback Concepts.** (3:3:1) F, Sp Prerequisite: ECEn 315.
Introduction to design and analysis of continuous systems controlled by feedback.

**415. Introduction to Discrete-Time Signal Processing.** (3:3:1) W Prerequisite: ECEn 315.
DSP, fast Fourier transforms, digital filter design, spectrum analysis, applications in speech processing, SONAR communications, etc.

**425. Computer Architecture with Applications.** (4:3:4) F, W Prerequisite: ECEn 325 and C programming experience.
Organization, function, and design decisions in modern computer systems together with specified applications.

**427. Computer Input/Output Devices.** (3:3:2) F, W Prerequisite: ECEn 313, 325.
Input/output interfacing of peripheral devices. Dynamic memory control, disk and graphics controllers. Aperiodic selected laboratory assignments.

**443. Electronic Circuit Design 2.** (4:3:5) W Prerequisite: ECEn 313, 317.
Design of electronic circuits, such as multistage, power, feedback, and high frequency amplifiers, oscillators, modulators, and power supplies.

**444. Analog and Digital Communication Theory.** (3:3:1) F, W Prerequisite: ECEn 315, Stat 421.
Analysis and theory of communication systems, emphasizing modulation schemes and applications; information theory; introduction to nondeterministic random signals and processes in the presence of noise.

**450. Introduction to Semiconductor Devices.** (3:3:1) W Prerequisite: ECEn 313.
Physics of electronic and optical solid state devices; includes semiconductor materials, bipolar and FET device physics and modeling, optical properties of semiconductors, and lasers.

**451. Introduction to Digital VLSI Circuits.** (4:3:5) F, Sp Prerequisite: ECEn 313, 325.
Design of very large-scale integrated circuits for digital systems. CAD tools used extensively to simulate the design and create and verify mask circuits.

**452. Experiments in Integrated Circuit Development.** (1:0:3) W Prerequisite: ECEn 450 or concurrent registration.
Measurements of key silicon properties and fabrication of integrated circuits.

**460. Applied Electromagnetic Theory.** (3:3:1) F Prerequisite: ECEn 360.
Application of Maxwell's equations to propagating and radiating components and systems.

**461. Electromagnetics Laboratory.** (1:0:3) F Prerequisite: ECEn 361; 460 or concurrent registration.
Design and evaluation of microwave devices, systems, and materials.

**491. Senior Seminar.** (0.5:2:0) F Prerequisite: senior electrical and computer engineering standing.
Department seminars and College Lecture attendance required.

**492A. Senior Seminar and Design Project Proposal.** (0.5:1:0) F, W Prerequisite: senior electrical and computer engineering standing; Engl 316 or concurrent registration.
Senior seminar and proposal for senior capstone design project. College Lecture attendance required.

**492B. Senior Design Project.** (1:0:Arr.) F, W, Sp Prerequisite: ECEn 492A.
Senior design project implementation.

**492C. Senior Seminar and Design Project Report.** (0.5:0:Arr.) F, W, Sp Prerequisite: ECEn 492B or concurrent registration.
Report and presentation of senior design project. College Lecture attendance required.

**493R. Special Topics in Electrical and Computer Engineering.** (1–4:Arr.:Arr. ea.)
Topics vary. Recent developments in electrical and computer engineering.

**499A. Honors Thesis Project.** (2:0:Arr.) F, W, Sp Prerequisite: ECEn 492A.
Honors senior design project implementation.

**499B. Honors Thesis Report.** (1:0:Arr.) F, W, Sp Prerequisite: ECEn 499A or concurrent registration.
Report and presentation of Honors senior design project.

## 500-Level Graduate Courses (available to advanced undergraduates)

**510. (ECEn-Stat 545) Stochastic Processes.** (3:3:0) Prerequisite: Stat 421 or 520.
Review of elementary probability: expectation, characteristic functions, limit theorems. Introductory random processes: definitions and properties, covarience and spectral density, time average, stationarity, ergodicity, linear system relations, mean square estimation, Markov processes.

**511. Introduction to Linear System Theory.** (3:3:0) F Prerequisite: ECEn 411.
Finite-dimensional linear systems. State variable realizations, canonical forms, controllability, observability, minimality. Time and frequency domain design of controllers and observers.

**512. Active and Passive Filter Design.** (3:3:0) Prerequisite: ECEn 315.
Design and frequency response characteristics of active and passive filters; emphasizes applications to signal processing.

**515. Data Acquisition Systems.** (3:3:0) Prerequisite: ECEn 313, 315.
Components and their characteristics required to convert physical variables to digital data. Relationship between digital data word bit size and component characteristics.

**516. Adaptive Processing.** (2:2:0) Prerequisite: ECEn 315.
Adaptive digital filter theory, LMS adaptive algorithms, applications to learning filters, noise cancellation, and adaptive antenna arrays.

**517. Digital Filters and Signal Processing.** (3:3:0) W Prerequisite: Math 322 or 332; ECEn 415 and concurrent registration in 510.
Digital filters and their application to signal processing.

**518. Digital Signal Processing Laboratory 2.** (1:0:1) W Prerequisite: ECEn 517 or concurrent registration.
Advanced laboratory experience in computer processing of digital signals and signals in discrete format.

**519. Digital Image Processing.** (3:3:0) Sp Prerequisite: ECEn 510, 517.
Digital processing techniques for two-dimensional scene analysis, classification feature enhancement, contrast enhancement deblurring, data compression, etc.

**520. Error-Control Codes.** (3:3:0) F Prerequisite: senior or graduate standing.
Theory and implimentation of error-control techniques for digital communication, computer, and storage systems. Includes block, cyclic, and convolutional codes.

**522R. Special Topics in Computer Systems.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**523. Computer Network Queueing.** (3:3:0) W Prerequisite: ECEn 315 or concurrent registration; Stat 421.
Queueing concepts related to computer systems and networks, resource allocation, speed, service time. Applications of random variables and probability theory.

**526. Local Computer Networks.** (3:3:0) Prerequisite: ECEn 327.
Local computer network coupling fundamentals.

**528. Computer Systems Architecture.** (3:3:0) Prerequisite: ECEn 425.
Advanced topics in computer architecture and parallel processing.

**529. Advanced Computer System Design Lab.** (3:3:0) Prerequisite: ECEn 425, 451.
Lab experience in design and analysis of advanced computer systems.

**540. Detection and Estimation Theory.** (3:3:0) F Prerequisite: concurrent registration in ECEn 510.
Sufficiency, completeness; Neyman Pearson and Bayes detectors; maximum likelihood, Bayes, minimum mean square, and linear estimation; Kalman filters.

**542R. Special Topics in Electronics.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**544. Digital Communication Theory.** (3:3:0) F Prerequisite: ECEn 444, 510.
Theory and design of optimal digital communication systems with noise, matched filters, correlation detectors, convolution codes, sequential coding/decoding schemes, block coding, and spread spectrum.

**545. Information and Coding Theory.** (3:3:0) W Prerequisite: ECEn 315, Stat 421.
Mathematical development of information and coding theory applied to communication and other stochastic processes.

**546. Optical Communication Components and Systems.** (3:3:0) W Prerequisite: ECEn 460.
Fiber optic communication system components and their operating and performance characteristics.

**547. Satellite Communications Systems.** (3:3:0) Prerequisite: ECEn 444.
Satellite communication system design including satellite transponders, microwave components, earth station hardware, link budgets, and analog and digital modulation formats.

**550. Device Electronics for Integrated Circuits.** (3:3:0) F Prerequisite: ECEn 450.
Semiconductor device analysis and simulation. Analog-integrated circuit design.

**551. VLSI Systems Design.** (3:3:0) W Prerequisite: ECEn 451.
Design of structured circuit systems for very large-scale integrated semiconductor chips. Architecture of digital VLSI systems.

**553. VLSI Process Technology.** (3:3:0) Prerequisite: senior or graduate standing in engineering or physical sciences.
Physical and chemical process steps used in fabricating very large-scale integrated circuits on monolithic silicon crystal.

**555. VLSI Testing.** (1:1:3) Prerequisite: ECEn 451.
Testing of ICs designed previous semester in ECEn 451. Topics in VLSI-testable circuit designs.

**560. Intermediate Electromagnetic Theory.** (3:3:0) Even yr. Prerequisite: ECEn 460. Recommended: Math 323.
Application of electromagnetic theory to nonlinear and anisotropic materials and devices. Current mathematical techniques in field theory.

**561. High-Frequency Communication Circuits.** (4:4:3) F Prerequisite: ECEn 360, 443.
Circuits and RF techniques used in communication systems.

**563. Antenna Theory.** (3:3:0) Alt. even yr. Prerequisite: ECEn 460.
Radiation, terminal, and distributed properties of antenna structures. Effects of lossy and ionized media on antenna performance. Noise temperature.

**564. Radar Systems Performance.** (3:3:0) Prerequisite: ECEn 444 or 510.
Performance and evaluation of various radar systems. Range equation, signal detection, ambiguity function, system configurations, and components.

**568. Microwave Remote Sensing.** (3:3:0) Prerequisite: instructor's consent.
Emphasis on space-borne remote sensing of the earth's atmosphere, land, and oceans. Primary methods and applications for both active (radar) and passive (radiometry).

**592R. Supervised Teaching Experience.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su
For students receiving supervised teaching experience.

**593R. Special Topics in Electrical Engineering.** (3:3:0 ea.) Prerequisite: instructor's consent.
Topics vary. Recent developments in electrical engineering.

**598R. Special Problems.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Electrical and Computer Engineering Faculty

**Professors**

Chabries, Douglas M. (1978) BS, U. of Utah, 1966; MS, California Inst. of Technology, 1967; PhD, Brown U., 1970.

Christiansen, Richard W. (1978) BS, Rutgers U., 1961; MS, U. of New Mexico, 1966; PhD, U. of Utah, 1976.

Comer, David J. (1981) BSEE, San Jose State U., 1961; MSEE, U. of California, Berkeley, 1962; PhD, Washington State U., 1966.
Miner, Gayle F. (1960) BS, MS, U. of Utah, 1959, 1960; PhD, U. of California, Berkeley, 1969.
Stirling, Wynn C. (1984) BS, MS, U. of Utah, 1969, 1971; PhD, Stanford U., 1983.

**Associate Professors**
Archibald, James K. (1987) BS, Brigham Young U., 1981; MS, PhD, U. of Washington, 1983, 1987.
Bearnson, Leroy W. (1972) BS, U. of Utah, 1961; MS, Syracuse U., 1965; PhD, Auburn U., 1970.
Comer, Donald T. (1995) BS, San Jose State U., 1959; MS, U. of California, Berkeley, 1961; PhD, U. of Santa Clara, 1968.
Long, David G. (1990) BS, MS, Brigham Young U., 1982, 1983; PhD, U. of Southern California, 1989.
Nelson, Brent E. (1984) BS, MS, PhD, U. of Utah, 1981, 1983, 1984.
Salmon, Linton G. (1990) BS, Stanford U., 1977; MS, PhD, Cornell U., 1979, 1983.
Selfridge, Richard H. (1987) BS, California State U., Sacramento, 1978; MS, PhD, U. of California, Davis, 1980, 1984.
Ward, David M. (1964) BS, Stanford U., 1959.
Ware, Gene A. (1987) BS, MS, Brigham Young U., 1965, 1966; PhD, Utah State U., 1980.
Wilde, Doran (1995) BS, Brigham Young U., 1978; MS, PhD, Oregon State U., 1993, 1995.

**Assistant Professors**
Arnold, David V. (1992) BS, MS, Brigham Young U., 1983, 1987; PhD, Massachusetts Inst. of Technology, 1992.
Frost, Richard L. (1987) BS, MS, PhD, U. of Utah, 1975, 1977, 1979.
Hutchings, Brad (1992) BS, MS, PhD, U. of Utah, 1984, 1987, 1992.
Jeffs, Brian D. (1990) BS, MS, Brigham Young U., 1978, 1982; PhD, U. of Southern California, 1989.
Jensen, Michael (1994) BS, MS, Brigham Young U., 1990, 1991; PhD, U. of California, Los Angeles, 1994.
Rice, Michael D. (1991) BS, Louisiana Tech U., 1987; MS, PhD, Georgia Inst. of Technology, 1989, 1991.
Swindlehurst, A. Lee (1990) BS, MS, Brigham Young U., 1985, 1986; PhD, Stanford U., 1990.

**Adjunct Faculty**
Baker, Doran J., BS, PhD, U. of Utah, 1953, 1956.

**Emeriti**
Berrett, Paul O. (1964) BS, U. of Utah, 1953; MS, U. of Southern California, 1955; PhD, U. of Utah, 1965.
Bowman, Lawrence S. (1967) BS, MS, PhD, U. of Utah, 1957, 1961, 1964.
Chaston, A. Norton (1957) AS, U. of Idaho, 1944; BS, U. of Utah, 1951; MS, Brigham Young U., 1963.
Clegg, John C. (1961) BS, MS, PhD, U. of Utah, 1949, 1954, 1957.
Humpherys, Deverl S. (1964) BS, Brigham Young U., 1955; MS, U. of Utah, 1957; PhD, U. of Illinois, 1963.
Jonsson, Jens J. (1953) BS, BS, U. of Utah, 1944, 1947; MS, PhD, Purdue U., 1948, 1951.
Losee, Ferril A. (1965) BS, U. of Utah, 1953; MS, U. of Southern California, 1957.
Woodbury, Richard C. (1959) BS, U. of Utah, 1956; MS, PhD, Stanford U., 1958, 1965.

Tony R. Martinez of the Computer Science Department is assisting with electrical and computer engineering courses and graduate programs by approval of the Electrical and Computer Engineering Department.

## Electronics Engineering Technology

See Manufacturing Engineering and Engineering Technology.

# Elementary Education

D. Ray Reutzel, Chair
215 MCKB, PO Box 25099, (801) 378-4077

College of Education Advisement Center
120 MCKB, PO Box 25096, (801) 378-3426

## Admission to Degree Program

Students are accepted in the elementary education teacher preparation program by application only. Students must attend an orientation seminar held by the College of Education Advisement Center prior to making application for admission.

Acceptance to the program is determined by the following:

1. The Exploratory Experience in Education (EEE), a 30-hour independent field experience verified by a written report.
2. The university cumulative GPA.
3. The Pre-Professional Skills Test (PPST) or its equivalent. (Minimal scores required: *Written:* Math 175, Reading 176, Writing 174; *Computer:* Math 320, Reading 323, Writing 320). Those with an ACT score of 26 or higher on the English and Math subtests are exempt from the PPST requirement.

The degree programs in the Department of Elementary Education carry enrollment limitations. Meeting the suggested minimums shown above for application does *not* guarantee admission to the program. A maximum of two applications will be considered for any individual.

## The Discipline

The Department of Elementary Education prepares teachers who, through a liberal education, help elementary-school-age children learn by improving the teaching they receive in the home, school, church, and community. Elementary education provides a preparation program wherein students enhance their thinking abilities, build their confidence in exploring new ideas, and become self-motivated, independent learners.

The program provides the opportunity for prospective teachers to learn about the culture of the elementary school, develop a solid foundation in basic principles of teaching and learning that originate in educational theory and research, and become proficient in systematically applying those basic principles.

## Career Opportunities

A degree in elementary education leads to opportunities for teaching in elementary schools. In combination with the Departments of Early Childhood Education, Secondary Education, or Music, students can extend their teaching credential to teach kindergarten, seventh and eighth grade, or elementary music. The current number of elementary education graduates far exceeds the market demand.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements, (2) university requirements, and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) (Engl 313 is strongly recommended.) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) (PhyS 110A, 110B are strongly recommended.) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed for the following undergraduate degree program.

## Undergraduate Programs and Degrees

BS Elementary Education

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Teaching and Learning
MEd Teaching and Learning
EdD Reading

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

#### Early Childhood Education

See the Department of Family Sciences for programs and course listings. Advisement in the College of Education Advisement Center (120 MCKB) is required.

#### Seventh and Eighth Grade Endorsement

See the College of Education Advisement Center (120 MCKB) for further information.

**Elementary Music Education/Elementary Education Dual Certification**

See the College of Fine Arts and Communications Advisement Center (D-444 HFAC) for music programs and course listings and the College of Education Advisement Center (120 MCKB) for the education program.

## BS Elementary Education (67.5 hours,* including certification hours)

**Major Requirements**

1. Make formal application for admission to the program through the College of Education Advisement Center.
2. No D credit will be accepted in the supporting or major courses.
3. Complete the following courses prior to application for admission:
   FamSc 210.
   Math 305, 306.
   PE 169.
4. Complete the following courses (completion prior to application for admission strongly recommended):
   Dance 326.
   FamSc 315.
   Music 378.
   ThF 372.
   VAEdu 326.
5. Complete the following professional courses (prior application required):
   ElEd 302, 323, 340, 351, 356, 357, 358, 361, 362, 363, 364, 365, 366, 372, 400 (or 496R).
   ELdr 452.
   EPsy 400.
   Hlth 361.
   IS 286 (3 hours), 301.
   PE 375.
   RelC 491, 492.

**Recommended Courses**

The following courses are strongly recommended. All can fill GE requirements:
Biol 100 (101 lab also strongly recommended).
Engl 313.
Geog 120.
PhyS 110A, B.

*Hours include courses that may fulfill GE or university requirements.

## Elementary Education (ElEd)

### Undergraduate Courses

**+Instructional Science 286. Microcomputers in the Schools. (1:2:Arr.)**

**302. Planning and Management.** (2:2:0) F, W Prerequisite: admittance to elementary education program.
Learning principles, lesson planning, classroom atmosphere, classroom management, professional attitudes and practices.

**310R. Introduction to Learning and Teaching.** (1–6:Arr.:Arr. ea.) On dem. By application only. See EAC or department office for application dates. Prerequisite: Engl 115 or Phil 105, Precollege Mathematics, FamSc 210, PPST, speech and hearing test, and minimum of 45 credit hours completed.
Course consists of two major components: (1) teaching for learning, and (2)cognitive understanding of effective teaching and learning. Demonstrated competence in both components is required for admittance to the professional program. Fee.

**323. Integrated Curriculum.** (2:2:0) F, W, Sp, Su Prerequisite: admittance to elementary education program.
Methods in planning and implementing an integrated curriculum, using projects and thematic units that are developmentally appropriate for children's learning.

**340. Children's Literature.** (2:2:0) F, W, Sp (nonmajors only) Independent Study also. Prerequisite: major status.
Trends and titles in children's and adolescent literature. Reading and critiquing as well as practical uses of children's literature in both school and home.

**351. Multicultural Education.** (2:2:0) F, W, Sp
Cultural issues related to public education that promote constructive interaction among people of differing economic, social, racial, ethnic, and religious backgrounds.

**356. Teaching Reading and Language Arts in the Primary Grades.** (2:2:0) F, W Prerequisite: concurrent registration in ElEd 358.
Issues, theories, and practices of literacy instruction for primary grades, including development of literacy through listening, speaking, reading, and writing.

**357. Teaching Reading and Language Arts in the Intermediate Grades.** (2:2:0) F, W Prerequisite: concurrent registration in ElEd 358.
Issues and practices for teaching language arts in grades three to six, including content area reading and writing, literature, comprehending and responding, vocabulary development, and structural analysis applications.

**358. Practicum in Assessing and Supporting Literacy Development.** (2:0:4) F, W Prerequisite: concurrent registration in ElEd 356, 357.
Applying reading and writing assessment and instructional strategies in elementary classrooms. Fee.

**360. Diagnostic and Prescriptive Teaching in Reading.** (2:2:2) On dem. Prerequisite: ElEd 310R, 356, 357, and formal admission into elementary education major. Attendance first day is mandatory.
Using classroom diagnostic techniques to design a prescriptive program for correcting reading difficulties. Fee.

**361. Teaching Mathematics in the Elementary School.** (2:2:0) F, W Prerequisite: Math 305, 306 or demonstrated competency on test of content; concurrent registration in ElEd 362.
Methods and materials for teaching elementary school mathematics guided by current principles of curriculum, instruction, and assessment in mathematics education.

**362. Practicum in Teaching Mathematics.** (1:0:2) F, W Prerequisite: Math 305, 306 or demonstrated competency on test of content; concurrent registration in ElEd 361.
Applying content and methods learned in ElEd 361 in an elementary school classroom. Fee.

**363. Teaching Science in the Elementary School.** (2:2:0) F, W Prerequisite: department approval; concurrent registration in ElEd 364.
Designed to help prospective teachers develop knowledge, skills, and attitudes related to teaching science in the elementary school.

**364. Practicum in Teaching Science.** (0.5:0:1) F, W Prerequisite: department approval; concurrent registration in ElEd 363.
Field experience designed to give students opportunities to interact with elementary school students and apply skills and knowledge developed in ElEd 363.

**365. Teaching Social Studies in the Elementary School.** (2:2:0) F, W Prerequisite: concurrent registration in ElEd 366.
Developing instructional methods and curriculum design to initiate and maintain effective learning in social studies classrooms.

**366. Social Studies Practicum.** (0.5:0:1) F, W Prerequisite: concurrent registration in ElEd 365.
Practicing strategies in instruction and curriculum to initiate and maintain effective learning in social studies classrooms.

**370. Practicum in Reading, Language Arts, and Mathematics.** (4:1:4) F, W 1st block only, Sp interns only. Prerequisite: ElEd 350, 352, 353, 356, 357, Engl 313. Students must take ElEd 400 immediately following 370.
Practicum in reading, language arts, and mathematics in a school setting with emphasis on learning. Fee.

**372. Instruction and Assessment.** (2:2:0) F, W Prerequisite: admittance to elementary education program.
Taken during second professional semester. Extended planning, integrated units, teaching strategies, management problems, and assessment and reporting of student progress.

**400. Classroom Student-Teaching Experience.** (1–8:Arr.:Arr.) F, W 2d block only. Prerequisite: ElEd 370 and prior application. See EAC for application dates. Fee.

**461. Individualized Instruction in the Elementary School.** (1–2:1:0) On dem.
Techniques for individualizing instruction in the elementary school.

**490R. Senior Seminar.** (1–2:2:0 ea.) On dem. Prerequisite: instructor's consent.

**493R. Independent Readings or Project.** (1–4:0:3 ea.) F, W, Sp, Su Prerequisite: department's consent.

**496R. Cooperative Education—Internship.** (8–12:Arr.:Arr. ea.) F Prerequisite: ElEd 370 and prior application. See EAC for application dates.
A full-year classroom teaching internship in the public schools.

## 500-Level Graduate Courses (available to advanced undergraduates)

**514R. Special Topics in Education.** (1–3:Arr.:Arr. ea.) On dem. These courses do not count toward a graduate degree.
—Children's Literature
—Classroom Management
—Computers in Education
—Curriculum
—Environmental Education
—Foundations of Reading
—Increasing Teaching Effectiveness
—Individualized Instruction
—Language Arts
—Language Development and Reading
—Mathematics
—Organizing for Instruction
—Precision Teaching
—Reading
—Reading in the Content Areas
—Science
—Social Studies
—Writing in Elementary Education

**515R. Special Topics in Education.** (1–3:Arr.:0 ea.) On dem. These courses do not count toward a graduate degree without prior approval.
—Art in Education
—Children's Literature
—Classroom Management
—Curriculum Innovations
—Dance Drama in Education
—Early Childhood Education
—Effective Teaching
—Evaluating Student Learning
—Foundations
—Health Education
—Home-School Relations
—Human Development
—Investigating Home Schooling
—Language Arts
—Mathematics
—Microcomputers in Schools
—Multicultural Education
—Music in Education
—PE in Education
—Precision Teaching
—Program Evaluation
—Reading
—Reading in the Content Areas
—Science
—Social Science
—Writing in the Elementary School

**530. Principles of Learning.** (3:3:0) Su
Improving classroom learning through understanding underlying psychological principles and theories.

**533. Written Expression in the Elementary Schools.** (2:2:0) On dem.
Foundation, objectives, and strategies for teaching the writing process to elementary students, including spelling, handwriting, and integration with listening and speaking skills.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Elementary Education Faculty

**Professors**

Baird, James E. (1973) BS, MS, Brigham Young U., 1957, 1962; PhD, U. of Utah, 1973.

Eldredge, J. Lloyd (1981) BS, Brigham Young U., 1958; MS, EdD, U. of Utah, 1962, 1970.

Harris, R. Carl (1975) BS, MS, Utah State U., 1967, 1968; PhD, Pennsylvania State U., 1971.

Monroe, Eula Ewing (1992) BS, MA, Western Kentucky U., 1960, 1964; EdD, George Peabody Coll. of Vanderbilt U., 1980.

Reutzel, D. Ray (1985) BA, U. of Wyoming, 1977; MA, Utah State U., 1980; PhD, U. of Wyoming, 1982.

Sucher, Floyd (1991) BS, Brigham Young U., 1954; MA, California State U., Los Angeles, 1957; EdD, Northern Colorado State U., 1963.

Tolman, Marvin N. (1975) BS, Utah State U., 1964; MEd, U. of Utah, 1969; EdD, Utah State U., 1975.

**Associate Professors**

Campbell, Milo Kay (1966) BA, MEd, Brigham Young U., 1961, 1966; PhD, Wayne State U., 1972.

Chilcoat, George (Skip) (1989) BA, MEd, EdD, Arizona State U., 1972, 1975, 1983.

Cook, Paul F. (1977) BS, Utah State U., 1960; MS, PhD, Brigham Young U., 1966, 1968.

Cutler, Beverly R., Associate Dean (1969) BA, U. of Utah, 1952, MS, Brigham Young U., 1963; PhD, Stanford U., 1966.
Earle, Rodney S. (1993) BA, MEd, Brigham Young U., 1971, 1973; PhD, Indiana U., 1981.
Fawson, Parker C. (1993) BA, Weber State Coll., 1983; MEd, EdD Brigham Young U., 1986, 1989.
Hardy, Garry Ray (1970) BS, Utah State U., 1961; MS, Brigham Young U., 1970; EdD, U. of Houston, 1977.
Jacobs, James S. (1976) BA, U. of Utah, 1968; MA, Stanford U., 1970; EdD, U. of Georgia, 1978.
Morrison, Timothy G. (1994) BA, MEd, Brigham Young U., 1977, 1979; PhD, U. of Illinois, Urbana-Champaign, 1986.
Richards, A. LeGrand (1985) BS, PhD, Brigham Young U., 1975, 1982; MEd, Harvard U., 1976.
Tunnell, Michael O. (1992) BA, Brigham Young U., 1973; MEd, Utah State U., 1978; EdD, Brigham Young U., 1986.

**Assistant Professors**

Birrell, James (1993) BS, Brigham Young U., 1981; MEd, U. of Utah, 1984; EdD, U. of Nevada, Las Vegas, 1993.
Ostlund, Margaret F. (1987) BA, MEd, EdS, Brigham Young U., 1958, 1976, 1977; PhD, U. of California, Los Angeles, 1993.
Smith, Stephanie Z. (1995) BS, Brigham Young U., 1984.
Tuttle, Marie (1976) BS, MEd, Brigham Young U., 1969, 1976; PhD, Texas A&M U., 1995.
Wilcox, Brad (1990) BS, MEd, Brigham Young U., 1985, 1990; PhD, U. of Wyoming, 1994.

**Emeriti**

Allred, Ruel A. (1961) BS, MS, Brigham Young U., 1954, 1958; EdD, U. of Oregon, 1965.
Anderson, Enid R. (1968) BS, MA, EdD, Utah State U., 1951, 1956, 1972.
Berryessa, Max J. (1963) BS, MS, Brigham Young U., 1948, 1949; EdD, Stanford U., 1959.
Black, Harvey B. (1970) BA, MA, Brigham Young U., 1950, 1954; PhD, Indiana U., Bloomington, 1962.
Bowles, Catherine (1960) BS, MEd, Brigham Young U., 1936, 1953.
Chai, Henry K. (1971) BS, Brigham Young U., 1951; MA, EdD, Arizona State U., 1962, 1979.
Clark, H. Clifford (1969) BS, EdD, Brigham Young U., 1954, 1963; MA, California State U., Los Angeles, 1957.
Clark, Hazel C. (1952) BS, U. of Utah, 1938; MS, Brigham Young U., 1957.
Clark, Welsford Hone (1956) BS, MEd, Brigham Young U., 1956, 1962.
Daines, Delva (1955) BS, MS, Utah State U., 1940, 1947; EdD, Washington State U., 1956.
Davidson, Bertha B. (1950) BS, MEd, Brigham Young U., 1950, 1954.
Dunn, James W. (1970) BS, MS, EdD, Brigham Young U., 1950, 1960, 1968.
Harmon, Frank W. (1963) BS, MS, U. of Utah, 1952, 1956; EdD, Columbia U., 1964.
Heil, Lillian H. (1974) BA, Fresno State Coll., 1950; MS, U. of Utah, 1960; EdD, Columbia U., 1968.
Knight, Leland Stan (1967) BA, MA, Chico State Coll., 1960, 1972; EdD, Brigham Young U., 1983.
Koplin, Joanne W. (1968) BS, U. of Utah, 1951; MEd, Brigham Young U., 1976.
Laird, Robert William (1973) BS, MS, Brigham Young U., 1951, 1962; EdD, Utah State U., 1971.
Miller, Elva K. (1955) BS, Brigham Young U., 1947.
Moore, Blaine H. (1970) BS, MEd, Brigham Young U., 1955, 1960; EdD, Colorado State Coll., 1969.
Nelson, Marvin N. (1959) BS, MS, Brigham Young U., 1951, 1961; PhD, U. of Utah, 1975.
Rasband, Mima (1952) BS, MS, Brigham Young U., 1937, 1950.
Searle, June G. (1961) BS, MEd, Brigham Young U., 1958, 1967; PhD, U. of Utah, 1974.
Steed, Robin (1988) BS, Brigham Young U., 1951; MA, St. Mary's Coll., 1981; EdD, Brigham Young U., 1984.
Storrs, Jane G. (1960) BS, MS, Brigham Young U., 1946, 1960.
Winterrose, Geneva (1967) BS, MS, Brigham Young U., 1948, 1951; EdD, Utah State U., 1968.

# Engineering and Technology Education

Douglas M. Chabries, Coordinator
270 CB, PO Box 21345, (801) 378-4327

## Engineering and Technology Education Courses (EngT)

**100. Introduction to Engineering and Technology.** (1–3:Arr.:Arr.) Su

Surveys of engineering and technology fields. Emphasis on communicative, mathematics, and computer technology skills. Laboratory exercises, field trips, design contests.

**200. Global Technology Issues.** (3:3:0) F, W

Interaction between the global society and technology. Global policy issues dealing with supply and demand of key commodities, economics, environment, population, and food and water resources.

**498. International Project.** (0.5:0.5:0) F, W

Report of a senior project that demonstrates comprehension of the international dimensions of the student's major.

**500. Technical Management Seminar.** (1:1:0) F

Opportunities and challenges in technical management. Interaction with engineering managers in dealing with technically trained employees.

**501. Management Simulation.** (1:0:3) W

Use of Aerospace Environment Business Simulator (computer program) to provide time-compressed experiences in managing a company involved in research, development, and manufacturing.

**502. Systems Engineering.** (3:3:0)

Applying quantitative techniques to the solution of interrelated problems, optimizing the system's overall operation.

# English

Jay Fox, Chair
3146 JKHB, PO Box 26280, (801) 378–3053

Gary L. Hatch, Coordinator, English Composition
3110 JKHB, PO Box 26204, (801) 378–3565

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378–4789

## Admission to Degree Program

All degree programs in the Department of English are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

The English major at BYU is a program devoted to the development of reading, writing, and thinking abilities derived from studying and producing literary and other texts in English. Students study these works in aesthetic, historical, religious, and other contexts, including the theoretical contexts the faculty bring to the courses they teach.

The major enables students to develop knowledge, skills, and attitudes that have application in contemporary society and that are in harmony with the principles of the restored gospel of Jesus Christ.

## Career Opportunities

Many opportunities for careers exist in teaching, professional and technical writing, newspaper work, editing, public relations, personnel work, and government service. The English major traditionally prepares students as teachers in secondary education, but it is excellent training for any career that requires perceptive reading, orderly and clear thinking, and persuasive and graceful expression. It is useful as an undergraduate major for careers in law, medicine, library work, organizational behavior, and publishing and editing. Some graduates work in journalism, advertising, script writing for television and movies, and public information. Local, state, and federal government agencies offer career possibilities as do business and industry.

Students would be wise to combine the English major with a minor in any field that would help prepare them for the job market.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | English |
| BA | English Teaching |
| BA | Honors in English and University Honors |
| Minors | English |
| | English Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA English

For more information see the 1996–97 Graduate Studies Catalog.

## BA English (42 hours)

**Major Requirements**

1. No D credit in English courses may be applied to major requirements.
2. Students must complete the GE Foreign Language option even if the Advanced Mathematics option has already been completed.
3. At least 21 major hours must be completed in residence at BYU.
4. Engl 195, Introduction to the English Major, is recommended.
5. Complete the following introductory courses:
   Engl 223, 251, 252.

6. Complete the following area requirements:
   a. Language: Select one course from the following:
      Engl 322, 324, 325, 326, 328.
   b. Early British Literature: Select one course from the following:
      Engl 291, 371, 372, 373, 385.
   c. Later British Literature: Select one course from the following:
      Engl 292, 374, 375, 376.
   d. American Literature: Select one course from the following:
      Engl 293, 361, 362, 363, 364.
   e. Genres and Authors: Select one course from the following:
      Engl 333, 336, 337R, 338, 341, 343, 359, 366, 381, 382, 383, 395R, or 420.
   f. Cultural Studies: Select one course from the following:
      Engl 300R, 345, 350, 351, 352, 355, 358R, 368, 391, 392, 396.
   g. Writing: Select one course from the following:
      Engl 217, 218R, 220, 311, 312, 315, 316, 410R, 415R, 418, 424.
7. Select 9 elective hours from English 300-level or above courses except 377, 378, 423, 479, 495, 499R.
   **Note:** No more than 3 credits of any given R course may apply toward the 42 hours required for the major.
8. Complete the following:
   Engl 495.
9. The department has developed some sample advisement patterns for students who wish to focus on a particular subject or skill area. Sample advisement patterns are available in the English Department office, 3146 JKHB.

## BA English Teaching (73–74 hours,* including certification hours)

**Major Requirements**

1. No D credit in English courses may be applied to major requirements.
2. Students must complete the GE Foreign Language option even if the Advanced Mathematics option has already been completed.
3. At least 24 hours of the English course work must be completed in residence at BYU.
4. Engl 195 is recommended.
5. A teaching minor is not required for certification. However, it is strongly recommended.
6. ScEd 276 is prerequisite to Engl 377 and 378 (377 and 378 may be taken concurrently). Engl 377 and 378 are prerequisite to ScEd 476.
7. Complete the following introductory courses:
   Engl 223, 251, 252.
8. Complete the following area requirements:
   a. Language: Complete the following:
      Engl 325.
   b. Early British Literature: Select one course from the following:
      Engl 291, 371, 372, 373, 385.
   c. Later British Literature: Select one course from the following:
      Engl 292, 374, 375, 376.
   d. American Literature: Select two courses from the following:
      Engl 293, 361, 362, 363.
   e. Genres and Authors: Complete the following:
      Engl 382, 420.
   f. Cultural Studies: Select one course from the following:
      Engl 345, 355, 358R, 391, 392.
   g. Writing: Complete the following:
      Engl 423.
9. Complete the following:
   Engl 377, 378, 479 (1 hour required).
10. Complete the following:
    Engl 495.
11. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in English and University Honors

For information on this degree program, see the college advisement center.

See also the University Honors Education section of this catalog.

## Minor English (18 hours)

1. At least 6 hours must be from courses at the 300-level or higher.
2. At least 9 hours must be taken in residence at BYU.
3. No D credit in English courses may be applied to minor requirements.
4. Complete the following:
   Engl 251 (prerequisite to all other English courses).
5. Select 15 elective hours from Engl 200-level or higher courses. At least 6 hours must be 300-level or higher.

## Minor English Teaching (24 hours)

1. No D credit in English courses may be applied to minor requirements.
2. At least 12 minor hours must be completed in residence at BYU.
3. Complete the following introductory course:
   Engl 251 (prerequisite to all other English courses).
4. Complete the following requirements:
   a. Complete the following:
      Engl 325.
   b. Select one course from the following:
      Engl 291, 371, 372, 373, 385.
   c. Select one course from the following:
      Engl 292, 374, 375, 376.
   d. Select one course from the following:
      Engl 293, 361, 362, 363.
   e. Complete the following:
      Engl 377, 382, 423.

## English (Engl)

### Undergraduate Courses

**100R. Special Programs in English.** (1–2:2:0 ea.)
Programs for multicultural students offered through the Division of Continuing Education.

**105. Expanded Literacy.** (3:3:0) Independent Study also.
Expanding and integrating critical thinking, cultural values, reading-writing relationships in several genres; increasing skill and understanding in language conventions: sentence structure, usage, vocabulary.

**115. College Writing and Reading.** (3:3:0) Independent Study also.
Basic principles of critical reading and expository writing: purpose, structure, logic, and language. Carries GE First-Year Writing credit.

**195. Introduction to the English Major.** (1:1:0)
Overview of the English major for the beginning student: curriculum, faculty, career options. Grading based chiefly on attendance.

**201. Masterpieces of World Literature 1.** (3:3:0) Honors also.
Major world civilizations from antiquity to early Italian Renaissance, emphasizing socioeconomic, political, intellectual, and aesthetic developments, with perspective supplied by works of literature and the arts.

**202. Masterpieces of World Literature 2.** (3:3:0) Honors also. Prerequisite: Engl 201.
Major world civilizations from Europe's High Renaissance to modern times, emphasizing socioeconomic, political, intellectual, and aesthetic developments, with perspective supplied by works of literature and the arts.

**216. Experience in Writing.** (3:3:0) Prerequisite: Engl 115 or equivalent.
Specifically for those who have developed basic writing skills but wish to improve their writing before taking an advanced composition course.

**217. Writing for Children and Adolescents.** (3:3:0) Independent Study also. Prerequisite: Engl 115 or equivalent.
Theory and practice of writing prose and verse for youth readership. Specific attention to requirements of the realistic adolescent novel.

**218R. Creative Writing.** (3:3:0 ea.) Independent Study also. Prerequisite: Engl 115 or equivalent.
Individual sections may deal with poetry, personal essays, fiction, science fiction, or combinations of these.

**220. Writing Personal History.** (3:3:0) Independent Study also.

**223. Introduction to the English Language.** (3:3:0) Independent Study also.
Overview of English from linguistic point of view, emphasizing structure of English and social, biological, and psychological aspects of language.

**225. Vocabulary Building.** (2:2:0) Independent Study also.
Developing an effective vocabulary through study of prefixes, suffixes, and roots.

**230. Introduction to Literature: Fiction, Drama, Poetry.** (3:3:0) Independent Study also.
Introduction to various literary themes, forms, and authors. Does not fulfill English major requirements.

**232. Shakespeare.** (3:3:0) Independent Study also.
Careful reading and discussion of six to eight major plays. Does not fulfill English major requirements.

**235. Masterpieces of American Literature.** (3:3:0) Independent Study also.
Selected readings from Puritan times to the present.

**236. Masterpieces of English Literature.** (3:3:0) Independent Study also.
Selected readings from medieval times to the present.

**251. Fundamentals of Literary Interpretation and Criticism.** (3:3:0) Independent Study also. Prerequisite: Engl 115 or equivalent.
Introduction to concepts and practice of literary analysis, emphasizing elements of fiction, poetry, and drama.

**252. Critical Writing and Research.** (3:3:0) Independent Study also. Prerequisite: Engl 115 or equivalent. Recommended: Engl 251 or concurrent registration.
Literature-based expository and research writing. Primarily for English majors and other language or literature students with adequate literary background.

**280R. Studies in Theme and Form.** (3:3:0 ea.)
Topics vary.

**291. Perspectives in English Literature 1.** (3:3:0) Independent Study also.
Applying fundamentals of literary analysis to representative British authors and works to 1800; emphasis on intrinsic values and historical-cultural contexts.

**292. Perspectives in English Literature 2.** (3:3:0) Independent Study also.
Critical study of representative British authors and works since 1800; emphasis on intrinsic values and historical-cultural contexts.

**293. Perspectives in American Literature.** (3:3:0) Independent Study also.
Critical study of representative American authors and works; emphasis on intrinsic values and historical-cultural contexts.

**300R. English Literature in a Cultural Setting.** (1–6:Arr.:Arr. ea.) Prerequisite: for Study Abroad students only.

**311. Writing About the Humanities.** (3:3:0) Honors also. Prerequisite: Engl 115 or equivalent; junior or senior status.
Writing about the meaning, value, and quality of literature and other arts for both academic and mass audiences. Library research paper. Carries GE Advanced Writing credit.

**312. Argumentation and Critical Writing.** (3:3:0) Honors and Independent Study also. Prerequisite: Engl 115 or equivalent; junior or senior status.
Expository and persuasive writing focusing on practical reasons for evaluating audiences, generating and structuring an argument, and making stylistic decisions. Library research paper. Carries GE Advanced Writing credit.

**313. Expository Writing for Elementary Education Majors.** (3:3:0) Independent Study also. Prerequisite: Engl 115 or equivalent; ElEd 310R or FamSc 322; junior or senior status.
Improving writing proficiency by focusing on the writing process, collaborative writing, and techniques for teaching writing. Library research paper. Carries GE Advanced Writing credit.

**315. Writing in the Social Sciences.** (3:3:0) Honors and Independent Study also. Prerequisite: Engl 115 or equivalent; junior or senior status.
Writing characteristic of disciplines inquiring into human behavior and institutions; focuses on correspondence, proposals, library paper, critiques, and arguments. Carries GE Advanced Writing credit.

**316. Technical Writing.** (3:3:0) Honors and Independent Study also. Prerequisite: Engl 115 or equivalent; junior or senior status.
Writing scientific and technical proposals, articles, reports, and memoranda. Research paper. Carries GE Advanced Writing credit.

**317. Preprofessional Reading.** (2:2:0)
Reading and researching in technical material; includes speed-reading skills. Preparation for technical-professional reading and reading portions of MCAT, DAT, LSAT, GRE, GMAT tests.

**318R. Writing of Fiction.** (3:3:0 ea.) Independent Study also. Prerequisite: Engl 218R or instructor's consent.
Creation of style and technique in prose fiction; discipline and practice of the writer. Individual consultation.

**319R. Writing of Poetry.** (3:3:0 ea.) Independent Study also. Prerequisite: Engl 218R or instructor's consent.
Creation of style and technique in poetry; discipline and practice of the poet. Individual consultation.

**322. Modern American Usage.** (3:3:0) Independent Study also.
Current conventions and effective use of American English. Required for English teaching minor.

**324. History of the English Language.** (3:3:0) Prerequisite: Engl 223.
Basic changes from Old English to modern English, including modern American dialects.

**325. Grammar and Usage.** (3:3:0) Independent Study also. Prerequisite: Engl 223.
Study of grammar and usage in various applications.

**326. Semantics.** (3:3:0)
General semantics, emphasizing the way in which words influence thought and behavior.

**328. Study in English Grammars.** (3:3:0) Independent Study also.
Historical views of language followed by studies of structural and transformational grammars.

**333. The English Novel.** (3:3:0) Independent Study also.
Great novels of the past three centuries selected from the writings of Defoe, Fielding, Scott, Austen, Thackeray, Bronte, Dickens, Eliot, Hardy, Conrad, and other major novelists.

**336. The American Novel.** (3:3:0) Independent Study also.
Great novels of the American tradition selected from Cooper, Hawthorne, Melville, Twain, James, Dreiser, Cather, Hemingway, Faulkner, Steinbeck, Fitzgerald, Bellow, Malamud, and other major novelists.

**337R. Contemporary Literature.** (3:3:0 ea.)
Trends, techniques, and themes in fiction, drama, and poetry since World War II.

**338. The European Novel.** (3:3:0)
Works of the principal European novelists, including Stendhal, Tolstoy, Dostoevsky, Mann, Kafka, Malraux, and others. In English translation.

**341. English Drama.** (3:3:0)
Beginnings to the mid–nineteenth century, emphasizing dramatic modes and forms.

**343. Modern English and American Drama.** (3:3:0)

**345. Literature and Film.** (3:3:0)
Emphasis on film as an interpretation of texts.

**350. The Bible as Literature.** (3:3:0) Independent Study also.
Literary artistry, human values, and cultural significance of the Bible.

**351. Literary Theory and Criticism 1: The Critical Tradition.** (3:3:0)
Historical survey from Plato to the twentieth century.

**352. Literary Theory and Criticism 2: Contemporary Criticism.** (3:3:0)
Introduction to issues in literary criticism through a survey of major movements of the twentieth century.

**355. (Engl-ClCv) Greek and Roman Classics and the English Tradition.** (3:3:0)
Major works by such authors as Homer, the Greek and Roman tragedians, Thucydides, Vergil, and Petronius in English translation, emphasizing their influence on English and American literature.

**358R. Ethnic, Regional, and Other Literatures in English.** (3:3:0 ea.)
Native and Afro-American, Chicano, Third World, and other literatures in English.

**359. The Short Story.** (3:3:0) Independent Study also.
Critical study of American, English, and European short stories, emphasizing those of the twentieth century.

**361. American Literature to the Mid–Nineteenth Century.** (3:3:0)
Literary tradition from its Puritan beginnings through transcendentalism, including fiction of Hawthorne and Melville.

**362. Late Nineteenth- and Early Twentieth-Century American Literature.** (3:3:0)
Poetry of Whitman and Dickinson and fiction of Twain, Howells, Dreiser, and other realistic and naturalistic authors.

**363. American Literature Since 1914.** (3:3:0) Independent Study also.
Significant trends from World War I to the present.

**364. The Literature of the American West.** (3:3:0)
Important literature that utilizes frontier and western situations. Focuses on the special problems of writing about the West.

**366. Modern Poetry.** (3:3:0) Independent Study also.
Major twentieth-century English and American poets.

**368. Literature of the Latter-day Saints.** (3:3:0)
Literary study of journals, letters, sermons, short stories, novels, poetry, and drama arising out of the Mormon experience from Joseph Smith to the present.

**371. English Literature to 1500: The Medieval Period.** (3:3:0)
Principal works, mainly in translation, from Old and Middle English literature, emphasizing relationships to other early European literature.

**372. English Literature from 1500 to 1603: The Early Renaissance Period.** (3:3:0)
English drama, poetry, and prose of the Tudor period.

**373. English Literature from 1660 to 1780: The Classical Period.** (3:3:0)
English literature from the Restoration through the Age of Reason, including Defoe, Swift, Fielding, Dryden, Pope, and Johnson.

**374. English Literature from 1780 to 1832: The Romantic Period.** (3:3:0) Independent Study also.
Includes writings of Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries.

**375. English Literature from 1832 to 1890: The Victorian Period.** (3:3:0)
Includes writings of Carlyle, Tennyson, Browning, Arnold, Dickens, the Rossettis, Swinburne, Meredith, Hopkins, and their contemporaries.

**376. English Literature from 1890 to 1950: The Modern Period.** (3:3:0)
Aspects of modernism from the aesthetic movement to the end of World War II, including the writings of Hardy, Shaw, Yeats, Conrad, Lawrence, Joyce, and Eliot.

**377. Secondary Teaching Procedures.** (3:3:0) Prerequisite: Engl 251; 322 or 325; ScEd 276R.
For English teaching majors and minors. Prerequisite to ScEd 476R.

**378. Teaching Reading.** (3:3:0) Prerequisite: ScEd 276R.
Theory, practices, experience, and insights that meet reading needs of secondary education students.

**381. Chaucer.** (3:3:0)
Intensive study of literature and language from medieval and modern perspectives. Includes some early works, but especially the Canterbury Tales.

**382. Shakespeare.** (3:3:0) Independent Study also.
Intensive reading and discussion of at least eight representative plays. For English majors and minors.

**383. Milton.** (3:3:0)
Analysis of poetry and selected prose, concluding with a detailed study of *Paradise Lost* and *Paradise Regained.*

**385. English Literature 1603–1660: The Late Renaissance Period.** (3:3:0)
English drama, poetry, and prose of the Stuart period.

**391. Introduction to Folklore.** (3:3:0)
Major types of folklore (e.g., myth, legend, folktale, folksong, custom, and belief); practical experience in collecting folklore.

**392. American Folklore.** (3:3:0)
American folk art and literature and the historical and cultural circumstances from which they developed.

**395R. Eminent Authors and Themes in Literature.** (3:3:0 ea.) Independent Study also.
Topics vary.

**396. Studies in Women's Literature.** (3:3:0)
Female-authored literary texts and critical literary theory concerning women.

**399R. Cooperative Education.** (1–9:0:0 ea.) Prerequisite: consent of cooperative education coordinator.
On-the-job training.

**410R. Editing for Publication.** (1–3:3:0 ea.) Prerequisite: instructor's consent. Recommended: Engl 322.
Lecture, discussion, and practice in manuscript selection, consultation with authors, editing, layout, and proofreading.

**415R. Preprofessional Writing Workshop.** (3:3:0 ea.) Prerequisite: Engl 252, 311, 312, 313, 315, or 316.
Developing proficiency and grace through reading and lecture; through writing, editing, and revising; and through peer and professional critique.Emphasis may vary with instructors.

**418. Writer's Portfolio.** (3:0:0) Prerequisite: Engl 218R, a GE Advanced Writing course, Comms 211 or 427, or comparable skills.
Individualized assistance in preparing a professional portfolio of the student's own writing in five categories: technical, scholarly, poetry, fiction or drama, and popular or journalistic writing.

**420. Literature for Adolescents.** (3:3:0) Independent Study also.
Intended especially for English-teaching majors and minors.

**423. Teaching Composition in the Secondary Schools.** (3:3:0)
Principles of rhetoric and linguistics applied to teaching composition in the secondary schools. Required for all prospective secondary school English teachers.

**424. Rhetoric and Teaching Academic Writing.** (3:3:0)
Principles of rhetoric and language applied to teaching academic writing at the college level. Recommended for all prospective college English teachers.

**479. Secondary Student Teaching.** (1–8:1:40) Prerequisite: Engl 377, 378.
For course description and fee, see Secondary Education section of this catalog.

**490R. Individual Readings in English.** (1–3:0:0 ea.) Prerequisite: department chair's consent.
Language and/or literature beyond what is offered in the curriculum. May not be substituted for another catalog course.

**495. The Senior Course.** (3:3:0 ea.)
In-depth study of a limited area of literature, language, or criticism. Content varies; requires research and writing.

**499R. Honors Thesis.** (1–6:0:0 ea.)
Does not count toward English major electives.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500R. Eminent American Writers.** (1–3:3:0 ea.)
Different writers each semester.

**510R. Eminent English Writers.** (1–3:3:0 ea.)
Different writers each semester.

**515R. Advanced Scholarly Writing.** (3:3:0 ea.)
Workshop for potential graduate students, graduate students, and professionals in all disciplines in preparing the thesis, dissertation, book chapter, and article.

**516. Advanced Technical Writing.** (3:3:0) Prerequisite: Engl 316 or instructor's consent.
Advanced concepts, including literature of technical writing, liaison with technical staff, communication networks, rhetoric of graphics, and teaching and freelancing technical writing.

**518R. Advanced Creative Writing.** (3:3:0 ea.) Prerequisite: Engl 318R, 319R, or instructor's consent.
Writing fiction, poetry, drama, and the essay; individual consideration of manuscripts; professional orientation. May be repeated for credit with departmental approval.

**520R. Studies in Theme and Form.** (1–3:3:0 ea.)
Topics vary: literature and film, myth and archetype, science fiction, etc.

**521R. Studies in Language and Rhetoric.** (1–3:3:0 ea.) Prerequisite: Engl 324.
Topics vary.

**527. Early Modern English.** (3:3:0) Prerequisite: Engl 223, 324.
English language from about 1500 to 1800, with special emphasis on language of Shakespeare and the King James Bible.

**528. Varieties of English.** (3:3:0) Prerequisite: Engl 223, 324.
Regional and social variation in English, especially standard and nonstandard national and world Englishes, including English-based pidgins and creoles.

**529. Structure of Modern English.** (3:3:0) Prerequisite: Engl 328, Ling 325, or instructor's consent.
English syntax through modern grammars; theories underlying those grammars.

**590R. Individual Readings in English.** (1–3:0:0 ea.) Prerequisite: graduate coordinator's consent.
Language and/or literature beyond what is offered in the curriculum. May not be substituted for another catalog course.

**599R. Cooperative Education.** (1–9:0:0 ea.) Prerequisite: department chair's consent.
On-the-job training.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Studies Catalog.

## English Faculty

**Professors**

Beecher, Maureen Ursenbach (1980) BS, Brigham Young U., 1958; MA, PhD, U. of Utah, 1966, 1973.

Blanch, Mae (Mable) (1959) BA, Brigham Young U., 1950; PhD, U. of Colorado, 1966.

Clark, Gregory (1985) BA, MA, Brigham Young U., 1972, 1977; PhD, Rensselaer Polytechnic Inst., 1985.

Cracroft, Richard H. (1963) BA, MA, U. of Utah, 1961, 1963; PhD, U. of Wisconsin, Madison, 1969.

Crisler, Jesse S. (1993) BA, Trinity U., 1969; PhD, U. of South Carolina, 1973.

Cronin, Gloria L. (1984) BA, Canterbury U., New Zealand, 1968; MA, PhD, Brigham Young U., 1976, 1980.

England, Eugene (1977) BA, U. of Utah, 1958; PhD, Stanford U., 1974.

Fox, Charles Jay (1980) BA, MA, Brigham Young U., 1965, 1967; PhD, Purdue U., 1971.

Geary, Edward A., Associate Dean, (1968) BA, MA, Brigham Young U., 1960, 1963; PhD, Stanford U., 1971.

Lambert, Neal E. (1966) BA, PhD, U. of Utah, 1961, 1966.

Murphy, John J. (1984) BA, MA, St. John's U., 1956, 1961.

Norris, Leslie, Humanitites Professor of Creative Writing (1983) DipEd, MPhil, Southampton U., England, 1956, 1958.

Skousen, Royal (1979) BA, Brigham Young U., 1969; MA, PhD, U. of Illinois, 1971, 1972.

Tanner, John S. (1982) BA, Brigham Young U., 1974; PhD, U. of California, Berkeley, 1980.

Tanner, Stephen L. (1978) BA, MA, U. of Utah, 1962, 1964; PhD, U. of Wisconsin, Madison, 1969.

Taylor, Sally T. (1978) BS, MA, Brigham Young U., 1960, 1965; PhD, U. of Utah, 1975.

Thayer, Douglas H. (1957) BA, Brigham Young U., 1955; MA, Stanford U., 1959; MFA, U. of Iowa, 1962.

Walker, Steven C., University Alumni Professor (1966) BS, MA, Brigham Young U., 1965, 1966; PhD, Harvard U., 1973.

Wilson, William A., Humanities Professor of Literature and Folklore, (1984) BA, MA, Brigham Young U., 1958, 1962; PhD, Indiana U., 1974.

**Lecturer**

Shakespeare, William O. (1974) BA, MA, Brigham Young U., 1970, 1982.

**Associate Professors**

Ballantyne, VerDon W. (1963) BS, MA, Brigham Young U., 1961, 1964.

Bennion, John S. (1989) BA, Utah State U., 1977; MA, Brigham Young U., 1981; PhD, U. of Houston, 1989.

Best, Brian S. (1960) BS, MA, Brigham Young U., 1958, 1962; PhD, U. of Wisconsin, Madison, 1971.

Best, Lorna Ruth Nielsen (1958) BA, MA, Brigham Young U., 1956, 1962.

Boswell, Grant M. (1984) BA, Brigham Young U., 1976; MA, PhD, U. of Southern California, 1982, 1985.

Cowles, David L. (1985) BA, MA, Brigham Young U., 1978, 1980; PhD, U. of Chicago, 1985.

Crowe, Christopher E. (1993) BA, Brigham Young U., 1976; MEd, EdD, Arizona State U., 1980, 1986.

Duerden, Richard Y. (1988) BA, MA, Brigham Young U., 1979, 1981; PhD, U. of Chicago, 1989.

Eggington, William G. (1988) BA, Brigham Young U.—Hawaii, 1975; MA, PhD, U. of Southern California, 1981, 1985.

Hansen, Kristine (1987) BA, MA, Brigham Young U., 1973, 1981; PhD, U. of Texas, Austin, 1987.

Harris, Claudia W. (1990) BA, U. of Minnesota, 1970; MEd, Georgia State U., 1975, 1978; PhD, Emory U., 1990.

Howe, Susan (1988); BA, Brigham Young U., 1971; MA, U. of Utah, 1978; PhD, U. of Denver, 1989.

Hunsaker, O. Glade (1964) BS, Utah State U., 1960; MA, Brigham Young U., 1964; PhD, U. of Illinois, 1970.

Johstoneaux, Raphael (1986) BS, MA, Brigham Young U., 1962, 1968; PhD, George Peabody Coll. of Vanderbilt U., 1980.

Jorgensen, B. W. (1975) BA, Brigham Young U., 1966; MA, PhD, Cornell U., 1969, 1978.

Lundquist, Suzanne E. (1984) BA, MA Brigham Young U., 1965, 1972; DA, U. of Michigan, 1985.

Nelson, Joyce (1990) BS, Utah State U., 1956; MS, Florida State U., 1971.

Parry, Catherine Corman (1985) BA, California State U., Fullerton, 1976; MA, PhD, U. of California, Los Angeles, 1978, 1985.

Paxman, David B. (1988) BA, Brigham Young U., 1971; MA, PhD, U. of Chicago, 1972, 1982.

Pedersen, Elray (1983) BS, MA, Brigham Young U., 1962, 1964; PhD, U. of Minnesota, 1977.

Smith, Marion K. (1964) BA, MA, Brigham Young U., 1961, 1966; PhD, U. of Texas, Austin, 1986.

Snyder, Phillip A. (1988) BA, MA, Brigham Young U., 1977, 1980; PhD, U. of North Carolina, Chapel Hill, 1988.

Spencer, Darrell K. (1985) BA, MA, Brigham Young U., 1973, 1976; PhD, U. of Utah, 1986.

Thomas, Paul R. (1980) BA, Brigham Young U., 1964; MA, U. of Virginia, 1967; DPhil, U. of York, England, 1982.

Wahlquist, Elizabeth (1962) BA, Brigham Young U., 1955; MA, MLit, Middlebury Coll., 1962, 1971.

Williams, Ray S. (1966) BA, Coker Coll., 1960; MA, PhD, Florida State U., 1962, 1965.

Young, Bruce W. (1983) BA, Brigham Young U., 1975; MA, Columbia U., 1976; AM, PhD, Harvard U., 1978, 1983.

**Assistant Professors**

Baltes, Paul J. (1993) BA, Arizona State U., 1988; MA, Purdue U., 1991.

Burton, Gideon (1994) BA, Brigham Young U., 1989; MA, MPW, PhD, U. of Southern California, 1994.

Chapman, Don W. (1995) BS, MA, Brigham Young U., 1987, 1990; PhD, U. of Toronto, Canada, 1995.

Christiansen, Nancy L. (1994) BA, MA, Brigham Young U., 1976, 1983; PhD, U. of California, Los Angeles, 1994.

Evenson, Brian K. (1994) BA, Brigham Young U., 1989; MA, PhD, U. of Washington, 1990, 1993.

Hatch, Gary L. (1992) BA, Brigham Young U., 1988; PhD, Arizona State U., 1992.

Houston, Gail T. (1990) BA, Brigham Young U., 1973; MA, Arizona State U., 1978; MA, Brigham Young U., 1981; PhD, U. of California, Los Angeles, 1990.

Larsen, Lance E. (1993) BA, MA, Brigham Young U., 1985, 1987; PhD, U. of Houston, 1993.

Lawrence, A. Keith (1992) BA, MA, Brigham Young U., 1977, 1980; PhD, U. of Southern California, 1987.

Lofgreen, Charlotte D. (1970) BA, California State Polytechnic Coll., 1959; MA, Brigham Young U., 1973.

Muhlestein, Daniel K. (1993) BA, MA, Brigham Young U., 1984, 1987; PhD, Rice U., 1992.

Norton, Don E. (1967) BA, MA, Brigham Young U., 1959, 1961.

Oaks, Dallin D. (1990) BA, Brigham Young U., 1984; MA, U. of Utah, 1986; PhD, Purdue U., 1990.

Paul, Danette (1996) BA, MA, Brigham Young U., 1987, 1989.

Petersen, Zina N. (1995) BA, Brigham Young U., 1987; MA, PhD, Catholic U., 1990, 1995.

Plummer, Louise R. (1993) BS, MA, U. of Minnesota, 1980, 1984.

Rigby, W. Dean (1966) BA, MA, Brigham Young U., 1953, 1970.

Siegfried, Brandie R. (1993) BA, MA, Brigham Young U., 1988, 1990; MA, PhD, Brandeis U., 1993.

Sorensen, Peter J. (1990) BA, BA, MA, Brigham Young U., 1975, 1977, 1979; PhD, Washington State U., 1988.

Zimmerman, Beverly B. (1993) BA, PhD, Brigham Young U., 1967, 1994.

**Assistant Lecturers**
Adams, Linda H. (1979) BA, MA, Brigham Young U., 1963, 1968.
Dant, Doris R. (1989) BA, MA, Brigham Young U., 1966, 1972.

**Part-Time Instructors**
James Bell, Dianna Black, Sharon Black, Lisa Boswell, Linda Clark, Delys Cowles, Alison Craig, Ben de Hoyos, Gladys Farmer, Terry Gorton, Nancy Gunn, Nancy Hawkins, Elizabeth Hedengren, GaeLyn Henderson, Matthew Jackson, Sherland Jackson, Stephen Jackson, Pamela Johstoneaux, Lovisa Lyman, Michael Madsen, Susan Miller, Julie Nichols, Samila Nickell, Fred Pinnegar, Mary Pollington, Sherilyn Ridenhour, Nancy Rushforth, Michael Rutter, Tessa Santiago, Charles Vogel, Nicole Wistisen, Margaret Young.

**Emeriti**
Alder, Zane G. (1955) BS, MS, Utah State U., 1948, 1956.
Arnold, Marilyn (1969) BS, MS, Brigham Young U., 1957, 1958; PhD, U. of Wisconsin, 1968.
Bell, Elouise M. (1963) BA, U. of Arizona, 1957; MA, Brigham Young U., 1959.
Bennion, George C. (1961) BA, Brigham Young U., 1949.
Calder, Rose Eyring (1965) BA, Brigham Young U., 1932; MA, Columbia U., 1936; PhD, U. of California, Berkeley, 1944.
Clark, Bruce B. (1950) BA, U. of Utah, 1943; MA, Brigham Young U., 1948; PhD, U. of Utah, 1951.
Clark, Marden J. (1949) BA, MA, Brigham Young U., 1948, 1949; PhD, U. of Washington, 1957.
Cox, Soren F. (1955) BA, MA, Brigham Young U., 1952, 1956; PhD, U. of Minnesota, Minneapolis, 1964.
Craig, Marshall R. (1953) BS, Brigham Young U., 1941; MA, PhD, Columbia U., 1947, 1968.
Ellsworth, Richard G. (1958) BA, MA, Brigham Young U., 1951, 1952; PhD, U. of Maryland, College Park, 1959.
Evans, David Louis (1954) BA, Idaho State U., 1948; MA, PhD, U. of Utah, 1953, 1968.
Farnsworth, Dean B. (1953) BA, MA, U. of Utah, 1946, 1947; PhD, U. of California, Berkeley, 1950.
Gassman, Byron W. (1960) BA, Brigham Young U., 1955; MA, PhD, U. of Chicago, 1956, 1960.
Grass, Nan Osmond (1951) BA, Brigham Young U., 1930; MA, Stanford U., 1954.
Harris, John B. (1958) BA, MA, Brigham Young U., 1955, 1956; PhD, Wayne State U., 1965.
Harris, John S. (1962) BA, MA, Brigham Young U., 1953, 1958.
Hart, Edward L. (1952) BS, U. of Utah, 1939; MA, U. of Michigan, 1941; DPhil, Oxford U., England, 1950.
Hayes, Darwin L. (1961) BA, MA, Brigham Young U., 1957, 1963.
Hendrickson, A. Lemar (1963) BS, MS, Utah State U., 1938, 1941.
Hooker, Joyce S. (1980) BS, U. of Idaho, 1955; MIE, Utah State U., 1979.
Horton, Frank K. (1955) BA, Brigham Young U., 1951; MA, U. of Southern California, 1957; DA, U. of Oregon, 1973.
Howe, Alice E. (1958) BA, MA, Brigham Young U., 1958, 1961.
Jacobs, Briant S. (1946) BA, Brigham Young U., 1939; PhD, U. of Iowa, 1944.
King, Arthur Henry (1971) BA, Cambridge U., England, 1931; FD, U. of Lund, Sweden, 1941; MA, Cambridge U., 1942.
MacKay, Ruth Mary (1962) BA, MA, Brigham Young U., 1960, 1962.
McKellar, J. Glen (1964) BA, MA, Brigham Young U., 1960, 1962; PhD, U. of Colorado, 1967.
McKendrick, John E. (1953) BA, MA, U. of Utah, 1942, 1949.
Mitchell, Olive K. B. (1947) BA, U. of Arizona, 1932; MA, Brigham Young U., 1934.
Monson, Samuel C. (1952) BS, Utah State U., 1941; MA, PhD, Columbia U., 1948, 1952.
Morrell, Jeannette (1956) BA, MA, U. of Utah, 1933, 1935.
Ream, Susan E. (1961) BA, Brigham Young U., 1953; MA, Columbia U., 1958.
Ridenhour, Ted E. (1959) BA, MA, Brigham Young U., 1957, 1960.
Tate, Charles D. (1960) BS, MS, Utah State U., 1954, 1958; PhD, U. of Colorado, 1966.
Taylor, Celestia J. (1959) BA, MA, Brigham Young U., 1925, 1953.
Thomas, Gordon K. (1976) BA, MA, Brigham Young U., 1959, 1960; PhD, Tulane U. of Louisiana, 1968.
Thomas, John Alfred (1962) BA, MA, Brigham Young U., 1953, 1954; PhD, U. of Maryland, College Park, 1962.
Thomas, Robert K. (1951) BA, Reed Coll., 1947; MA, U. of Oregon, 1949; PhD, Columbia U., 1967.
Thomson, Woodruff C. (1950) AA, Snow Coll., 1936; BA, MA, PhD, U. of Utah, 1938, 1949, 1962.
Waterstradt, Jean Anne (1945) AA, Weber Coll., 1943; BA, Brigham Young U., 1945; MA, U. of Southern California, 1955.
West, Dale H. (1947) BA, Brigham Young U., 1940; MA, U. of Southern California, 1955; EdD, U. of Colorado, 1962.
Wight, Marjorie (1963) BA, Brigham Young U., 1943; MA, U. of California, Los Angeles, 1958; PhD, U. of Southern California, 1967.

## English as a Second Language

See Linguistics.

## European Studies

See Kennedy Center for International Studies, David M.

## Evening School

See Division of Continuing Education.

# Family Sciences

James M. Harper, Chair
1000 SWKT, PO Box 25308, (801) 378-2069

Bernard E. Poduska, Associate Chair
1000 SWKT, PO Box 25308, (801) 378-2069

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Family Sciences are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Family scientists examine theories, research, and practices related to the quality of life in families. The bachelor's degree, which prepares students to write and think analytically about family and society, can be a broad liberal arts major, can be a means to teacher certification, or can be a preprofessional degree for social sciences graduate study. The department's philosophy is that societal and community health begins and ends in families.

## Career Opportunities

Family sciences scholarship provides (1) frameworks by which human development and family behavior can be explained, (2) applications of principles and skills that contribute to quality family relationships and appropriate use of family resources, and (3) research that addresses optimal human development, the wise use of family resources, and the well-being of family members.

An emphasis in early childhood education leads to a degree that includes dual certification in both early childhood and elementary education (in cooperation with the Department of Elementary Education). The kindergarten endorsement can only be obtained as part of the Early Childhood Certificate. Students in this major are certified to teach kindergarten through primary and intermediate grades in the public schools as well as in private and public preschools. This program will be administered beginning Fall 1995, by the College of Education. See the advisement center for details.

Home economics education is the emphasis leading to vocational teacher certification. Provision is also made for obtaining an occupational endorsement on the teaching certificate. This program is being revised. Please consult the advisement center (2254 SFLC) for details.

Students who wish a home economics emphasis without certifying to teach should choose the home and family emphasis.

Students with bachelor's degrees in nonteaching majors in family sciences and in the social sciences generally can be employed in settings where knowledge of human behavior, interpersonal competence, and personal use of resources is essential. However, graduate study is necessary for the most attractive opportunities within the profession. Family sciences graduates learn principles applicable to their personal as well as professional lives. The BS degree can be a springboard into graduate studies in the social sciences, law, and home economics.

Students considering graduate work in marriage and family therapy are encouraged to consult with the graduate secretary of the department regarding the electives that will best prepare them for admission to a graduate degree program. Generally, students will want to take statistics (and become familiar with computer statistical programs), research methods, family systems, abnormal psychology, and a pre-MFT seminar.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Family Sciences
Emphases:
- Early Childhood Education
- Family Science
- Home and Family
- Home Economics Education
- Home Economics Education—Family Life
- Human Development

Minor Family Sciences

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Family Sciences |
| MS | Marriage and Family Therapy |
| PhD | Family Sciences |
| PhD | Marriage and Family Therapy |

For more information see the 1996–97 BYU Graduate Catalog.

## BS Family Sciences: Early Childhood Education Emphasis (81.5 hours,* including certification hours)

In cooperation with the Department of Elementary Education, requirements for the early childhood education major are being revised. See the department for details.

**Major Requirements**

1. No D credit is allowed in major courses.
2. The following must be completed to apply to the ElEd 350 series: B grade in FamSc 322, declared ECE major, PPST, LRC fee, fingerprinting.
3. At catalog press time the possibility of completing an early childhood certificate (K–3) without also obtaining the elementary education certificate (1–8) was being considered. For the current status of this proposal, contact the College of Family, Home, and Social Sciences Advisement Center.
4. Complete the following courses prior to application for admission:
   FamSc 160, 210, 322.
   Math 305, 306.
   PE 169.
   **And** select one course from the following:
   FamSc 250, 310.
5. Complete the following courses (completion prior to application for admission strongly recommended):
   Dance 326.
   FamSc 315.
   Music 378.
   ThF 372.
   VAEdu 326.
6. Complete the following professional courses (prior application required):
   ElEd 302, 340, 351, 356, 357, 358, 361, 362, 363, 364, 365, 366, 372, 400 (or 496R).
   EPsy 400.
   FamSc 323, 423, 424.
   Hlth 361.
   IS 286 (3 hours).
   PE 375.
   RelC 491, 492.

**Recommended Courses**

The following courses are strongly recommended. All can fill GE requirements:
Biol 100 (101 lab also strongly recommended).
Engl 313.
Geog 120.
PhyS 110A, B.
Zool 334.

*Hours include courses that may fulfill GE or university requirements.

## BS Family Sciences: Family Science Emphasis (45 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 15 hours of family sciences major credit must be taken in residency at BYU.
3. Complete the following:
   FamSc 160, 210, 250, 300, 310.
4. Complete the following:
   FamSc 360, 371, 372, 460, 461.
5. Select one course from the following:
   FamSc 301, 302, 303.
6. Select 12 hours from the following:
   FamSc 304, 311, 312, 313, 314, 315, 356, 363, 367, 395R, 403R, 404, 465.

*Hours include courses that may fulfill GE or university requirements.

## BS Family Sciences: Home and Family Emphasis (41–42 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 15 hours of family sciences major credit must be taken in residency at BYU.
3. Complete the following:
   FamSc 160, 210, 250, 300, 310.
4. Complete the following:
   Famsc 150, 230, 371.
5. Select one course from the following:
   FamSc 304, 372.
6. Select two courses from the following:
   FamSc 301, 302, 303, 314, 360, 367, 465.
7. Select three courses from the following:
   FamSc 335, 340.
   CITx 300.
   FSN 100.
   Any 3-hour clothing and textiles or family sciences course.

*Hours include courses that may fulfill GE or university requirements.

## BS Family Sciences: Home Economics Education Emphasis (94–95 hours,* including certification hours)

At catalog press time requirements for the home economics emphasis were being restructured. Please see the advisement center for details. The new requirements total 65–69 hours.

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 15 hours of family sciences major credit must be taken in residency at BYU.

3. Complete the following:
   FamSc 150, 160, 210, 230, 288, 303, 304, 322, 335, 371, 377.
   ClTx 225, 261, 285, 386.
   FSN 100, 200, 344, 345.
   Nurs 288.
4. Select one course from the following:
   FamSc 250, 300.
5. Select one course from the following:
   ClTx 110, 300, 487.
6. Select one course from the following:
   FamSc 340.
   FSN 374.
7. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

**Note:** A delay of ten years or more before completing graduation/certification requirements will necessitate taking additional courses to update subject matter.

*Hours include courses that may fulfill GE or university requirements.

## BS Family Sciences: Home Economics Education—Family Life Emphasis (88–90 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 15 hours of family sciences major credit must be taken in residency at BYU.
3. Complete the following:
   FamSc 150, 160, 210, 288, 303, 322, 377.
   Nurs 288.
4. Select one course from the following:
   FamSc 250, 300.
5. Select 9 hours from the following:
   FamSc 301, 302, 460, 461, 465.
   Psych 306.
6. Select one of the following options:
   a. Clothing and textiles area: complete the following:
      ClTx 110, 261, 300.
      **And** select one course from the following:
      ClTx 225, 285, 330, 386, 487.
   b. Family sciences area: select four courses from the following:
      FamSc 230, 304, 314, 335, 371, 372, 404.
   c. Food science and nutrition area: complete the following:
      FSN 100, 200, 344, 345.
7. Select 14 additional hours from the following courses in an area *not* selected above:
   a. Clothing and textiles:
      ClTx 110, 261, 300.
   b. Family sciences:
      FamSc 230, 304, 310, 314, 340, 360, 371, 372, 404.
   c. Food science and nutrition:
      FSN 100, 200, 344, 345, 374, 410.
8. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Family Sciences: Human Development Emphasis (42 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 15 hours of family sciences major credit must be taken in residency at BYU.
3. Students planning on graduate work in any social or behavioral science should take at least one semester of statistics.
4. Complete the following:
   FamSc 160, 210, 250, 300, 310, 312, 313, 315.
5. Select 18 hours from the following:
   FamSc 301, 303, 311, 314, 317, 371, 395R, 403R, 460, 461.
   Psych 321.
   Stat 221, 222.

*Hours include courses that may fulfill GE or university requirements.

## Minor Family Sciences (15 hours*)

1. Complete the following:
   FamSc 160, 210, 371.
2. Select one course from the following:
   FamSc 301, 302, 303, 304.
3. Select one 3-hour family sciences course.

*Hours include courses that may fulfill GE or university requirements.

## Family Sciences (FamSc)

### Undergraduate Courses

**150. Principles of Home and Family Life.** (3:3:0)
Examines home as a fundamental civilizing influence; integrates views of family science and home economics.

**160. Introduction to Family Sciences.** (3:3:0) Honors and Independent Study also.
Basic concepts and principles of management and relationships.

**210. Human Development.** (3:3:0) Independent Study also.
Growth and development of the child from conception through adolescence; influences of family, peers, and schools.

**230. Housing the Family.** (3:3:0)
Social-psychological, economic, and political aspects of housing; selection and space planning.

**250. Theories in Family Perspective.** (3:3:0) Prerequisite: FamSc 160, 210.
Introduction of major theoretical perspectives and of philosophical issues. Readings include representative papers applying theoretical and philosophic tenets.

**288. Vocational and Occupational Education.** (3:2:1)
Legislation and public policy foundations for vocational education, related to occupational programs, public relations, and in-school experiences.

**300. Critical Inquiry and Research Methods.** (3:3:0) Prerequisite: FamSc 160, 210, or instructor's consent.
Philosophies of critical inquiry. Principles of designing, conducting, and reporting social science investigations.

**301. Preparation for Marriage.** (3:3:0)
Factors related to quality relationships, mate selection, and the transition into marriage.

**302. Marriage Enhancement.** (3:3:0)
Designed primarily for those who are married or engaged. Couples are encouraged to enroll together.

**303. Parenting.** (3:3:0) Independent Study also.
Theories and skills related to quality parent-child relationships.

**304. Family Money Management 1.** (3:3:0)
Principles in family science applied to family money management.

**310. Advanced Human Development.** (3:3:0) Prerequisite: FamSc 210 or instructor's consent.
Evaluation of research on physical, mental, emotional, and social development.

**311. Development in Infancy.** (3:3:0)
Conception, prenatal development, pregnancy. Physical, cognitive, and social development of the first twenty-four months. Implications for guidance and care in the family.

**312. Personality and Social Development.** (3:3:0) Prerequisite: FamSc 210 or instructor's consent.
Processes and sequences of personality and social development.

**313. Cognitive Development.** (3:3:0)
Development of mental abilities; effects of maturation and learning on memory, perception, attentional processes, intelligence, social cognition.

**314. Moral Development.** (3:3:0) Prerequisite: FamSc 250.
Moral traditions, normative ethics, psychological theories, social contexts and theories of social and moral development.

**315. Language Development.** (3:3:0) Prerequisite: FamSc 250 or 310 or instructor's consent.
Philosophical, social, intellectual, and emotional contexts of language acquisition and usage.

**317. Subculture Effects on Child Development.** (3:3:0)
Intellectual, social, emotional, moral, and physical factors.

**322. Childhood Socialization and Learning Lab.** (4:1:3) Prerequisite: FamSc 160, 210, 250; register a semester in advance.
An initial practicum experience with young children to increase understanding of socialization and learning processes, to create appropriate learning opportunities for children, and to develop management skills. Fee.

**323. Integrated Curriculum in Early Childhood Education.** (2:2:0) Prerequisite: FamSc 322 and/or admittance to either the ECE or ElEd certification programs.
Methods in planning and implementing an integrated curriculum using projects and thematic units that are developmentally appropriate for children's learning.

**335. Household Equipment.** (3:2:4)
Selection and performance of cookware and small and large household appliances; equipment function based on physical science principles; consumer use and energy conservation.

**340. Family Meal Management.** (2:1:3)
Organization and management of time, energy, finance, and nutrition in planning and preparing family meals. Lab required.

**356. Interactional Interviewing Skills in Family Sciences.** (3:2:1)
Interactional counseling techniques, issues, and theories; skill development in dyadic and family interaction observation. Lab required.

**360. Issues in Family Sciences.** (3:3:0) Prerequisite: FamSc 160.
Discussion of contemporary marriages and families, including sexuality, internal dynamics, and interpersonal relationships.

**363. Family Life in the Middle and Later Years.** (3:3:0) Prerequisite: FamSc 160 or instructor's consent.
Adjustments to physical, emotional, social, and economic changes. Needs arising from changes in family relationships, living arrangements, and employment; retirement planning.

**367. Women's Roles.** (3:3:0) Prerequisite: FamSc 160.
Educational, social, and economic context of woman's role in the family.

**371. Work and Relationships in the Home.** (3:3:0) Prerequisite: FamSc 160.
Theoretical and practical implications of interplay between household work, family relationships, and human resource development.

**372. Temporal Welfare in Families.** (3:3:0) Prerequisite: FamSc 160 or instructor's consent.
Assumptions, philosophy, and theory accounting for resource allocation, use, and meaning in families.

**375. Family Economics and Aging.** (3:3:0)
Economic challenges relating to the elderly and their families. Specifically designed for students seeking certification in gerontology.

**377. Curriculum Development in Home Economics Education.** (3:3:0) Prerequisite: concurrent registration in ScEd 276R.
Linkage between theory and practice in secondary classrooms.

**395R. Special Topics in Family Sciences.** (1–3:0:0 ea.) Independent Study also. Prerequisite: instructor's consent.
Topics include the single adult in family and society, duolingual parenting, and readings in family sciences.

**399R. Cooperative Education: Internship in Family Sciences.** (1–9:Arr.:Arr. ea.) Prerequisite: program coordinator's consent.
Supervised preprofessional experiences in community settings.

**403R. Research Practicum.** (3:1:2 ea.) Prerequisite: FamSc 300.
Research experience in a project directed by a faculty member.

**404. Family Money Management 2.** (3:3:0) Prerequisite: FamSc 304.
Theory and practice in family science applied to family money management.

**423. Practicum in Preschool.** (4:1:3) Prerequisite: concurrent registration in FamSc 424.
Teaching young children.

**424. Kindergarten Practicum.** (4:1:3) Prerequisite: concurrent registration in FamSc 423.
Practice teaching in kindergarten. Fee.

**425. Primary Grade Student Teaching Practicum.** (4:0.5:3.5) Prerequisite: FamSc 322, 323.
Developing teaching approach, techniques, and behaviors necessary for effective teaching/learning interactions with children in the primary grades. Fee.

**460. Theory and Research in Family Sciences.** (3:3:0) Prerequisite: FamSc 250, 300.
Analysis of principles used in family science. Emphasis on evidence supporting theories and applications.

**461. The Family and the Law.** (3:3:0) Prerequisite: FamSc 160.
Legal environment of the family system, with emphasis on husband-wife and parent-child relationships, rights, and responsibilities.

**465. Modifying Family Systems: Principles and Practices.** (3:3:0) Prerequisite: FamSc 160 and 210, or instructor's consent.
Analysis of family systems; methods of altering disturbing interaction patterns.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501R. Workshop in Family Sciences.** (1–2:2:0 ea.) Prerequisite: 8 hours in family sciences or department chair's consent.
Intensive study in applying principles of specified family sciences, subject matter in early childhood education, child development, family relationships, family resource management, or marriage/family therapy.

**510. Seminar in Intellectual Development.** (3:3:0) Prerequisite: FamSc 514.
Current theories and research on intellectual development.

**511. Familial Influences on Children's Social Development.** (3:3:0) Prerequisite: FamSc 310 or equivalent.
Current theories and research on social development, peer relations, and behavior. Familial/parenting effects as moderated by beliefs, genetics, gender, social cognitions, culture, child guidance, interventions.

**512. Emotional and Moral Development.** (3:3:0) Prerequisite: instructor's consent.
Research, theories, and educational implications; preschool through adulthood.

**514. Theories of Human Development.** (3:3:0) Prerequisite: FamSc 310 or equivalent.
Models and concepts in dominant contemporary developmental theories.

**520. Head Teachers Practicum in Preschool.** (4:1:3) Prerequisite: FamSc 322, 323 or equivalent.
Head teaching proficiencies: guiding teachers of young children, techniques for involving parents, evaluating student teachers, assessing child performance, reviewing child guidance, and developing curriculum.

**522R. Seminar in Early Childhood Education.** (2:2:4 ea.) Prerequisite: FamSc 322 or equivalent.
Teacher skills: developing, applying, measuring, and evaluating effective techniques. Curriculum: selecting, organizing, and creating curriculum materials for young children.

**540. Family Economics.** (3:3:0)
Economic functioning of household; role of income, employment, and household production as determinants of family living level.

**545. Family Financial Resource Management.** (3:3:0) Sp; Su even yr. Prerequisite: FamSc 304 or equivalent.
Applying theories and principles in managing financial resources to meet needs of individuals and families.

**550. (FamSc-Soc) History and Development of Theory about the Family.** (3:3:0) Prerequisite: FamSc 250, Soc 311, or equivalent.
Historical/intellectual roots of theorizing about families; paradigms and assumptions underlying theorizing; contemporary research and theory interface.

**551. Fathering: Scholarship and Intervention.** (3:3:0) Prerequisite: instructor's consent.
Quality fathering across cultures and in varied family circumstances. Historical changes in fathering; challenges to good fathering; effective interventions with fathers.

**555R. Beginning Practicum in Marriage and Family Therapy.** (2–3:0:4 ea.) F, W Prerequisite: FamSc 650.
Introduction to clinical methods and experience in counseling individuals, premarital and marital dyads, and families. For marriage and family therapy majors only.

**560. Perspectives on Familial Processes.** (3:3:0) Prerequisite: instructor's consent.
Integration of theories used for understanding and strengthening families. Research and application on family processes.

**561. Seminar in Family Law.** (3:3:0) Prerequisite: concurrent registration in FamSc 461.
Intensive investigation of issues and concepts influencing legal aspects of marriage and family life.

**562. Seminar in Professional Responsibility.** (3:3:0)
Ethical issues and legal responsibility in professional practice.

**563. Theoretical Foundations of Family Systems.** (3:3:0)
Systems theory and cybernetic approaches to family processes and epistemological issues.

**564. Human and Family Development Over the Life Cycle.** (3:3:0)
Interrelationships between individuals and family life cycle development, including modifying family processes and structure over time.

**565. Instructional Processes in Family Sciences.** (3:3:0)
Methods and curriculum of design, development, implementation, management, and evaluation related to family sciences and home economics curricula.

**566R. Preparation for Teaching Practicum.** (1:1:3 ea.) Prerequisite: instructor's consent.
Developing curriculum in preparation for teaching an undergraduate course in family sciences. Approval of curriculum required before enrolling in FamSc 567R.

**567R. Practicum in Family Life Education.** (1–3:0:Arr. ea.) Prerequisite: FamSc 565, 566, or instructor's consent.
Supervised experience teaching family living courses in a university setting.

**570. Paradigms in Family Process and Analysis.** (3:3:0) Prerequisite: FamSc 371 or equivalent.
Alternative perspectives on family management, governance, and participation, with emphasis on modernist/management vs. familial orientations affecting leadership, parenting, autonomy and choice, altruism and individualism.

**590R. Readings in Family Sciences.** (1–2:2:0 ea.) Prerequisite: FamSc 310 or 460 and instructor's consent.
Discussions and reports of current readings.

**595R. Special Topics in Family Sciences.** (1–2:2:0 ea.) Prerequisite: for family sciences major, FamSc 310 or 460 and instructor's consent.
Individual study for qualified students.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Family Sciences Faculty

**Professors**

Brasher, Ruth E. (1969) BS, Brigham Young U., 1951; MA, U. of Maryland, 1959; PhD, Utah State U., 1969.

Burr, Wesley R. (1969) BS, MS, Brigham Young U., 1960, 1961; PhD, U. of Minnesota, Minneapolis, 1967.

Crane, D. Russell (1983) BA, California State U., Hayward, 1975; MS, PhD, Brigham Young U., 1978, 1979.

Feinauer, Leslie L. (1984) BS, Brigham Young U., 1968; MS, U. of Utah, 1969; PhD, Brigham Young U., 1981.

Galbraith, Richard C. (1975) BS, Brigham Young U., 1971; MS, PhD, Northwestern U., 1973, 1975.

Harper, James M. (1979) BS, MS, Brigham Young U., 1974, 1976; PhD, U. of Minnesota, Minneapolis, 1979.
Larsen, Jean M. (1963) BS, MS, Brigham Young U., 1953, 1960; PhD, U. of Utah, 1972.
Larson, Jeffry H. (1987) BS, MS, Brigham Young U., 1971, 1974; PhD, Texas Tech. U., 1980.
Mead, D. Eugene (1967) BA, U. of Oregon, 1956; MA, San Jose State Coll., 1963; EdD, U. of Oregon, 1967.
Olson, Terrance D., (1974) BS, MS, Brigham Young U., 1967, 1969; PhD, Florida State U., 1972.
Peery, J. Craig (1980) BA, Columbia Coll., 1970; MA, PhD, Columbia U., 1973, 1973.
Price, Alvin H. (1966) BS, Brigham Young U., 1960; MA, PhD, U. of Minnesota, Minneapolis, 1963, 1966.
Stahmann, Robert F. (1975) BA, Macalester Coll., 1963; MS, PhD, U. of Utah, 1965, 1967.
Vance, Barbara Jane (1967) BA, U. of Utah, 1956; MA, Brigham Young U., 1959; PhD, Stanford U., 1967.

**Associate Professors**

Barlow, Brent Alvin (1977) BS, MA, Brigham Young U., 1966, 1968; PhD, Florida State U., 1971.
Beutler, Ivan F. (1981) BS, MS, Utah State U., 1969, 1970; MS, PhD, Purdue U., 1972, 1974.
Draper, Thomas W. (1982) BS, MS, Brigham Young U., 1971, 1973; PhD, Emory U., 1976.
Hart, Craig H. (1992) BS, MS, Brigham Young U., 1980, 1982; PhD, Purdue U., 1987.
Holman, Thomas B. (1985) BA, Utah State U.; MREd, PhD, Brigham Young U., 1976, 1981.
McKee, Trevor R. (1974) BA, MA, PhD, Brigham Young U., 1958, 1962, 1973.
Poduska, Bernard E. (1983) BA, MA, California State Coll., Fullerton, 1966, 1968; PhD, Brigham Young U., 1983.
Robinson, Clyde C. (1990) BS, MS, Brigham Young U., 1972, 1976; PhD, U. of North Carolina, Greensboro, 1982.
Scoresby, A. Lynn (1970) BS, MA, Brigham Young U., 1965, 1966; PhD, U. of Minnesota, Minneapolis, 1969.
Watson, Wendy L. (1993) BA, U. of Hawaii, 1973; MS, Brigham Young U., 1975; PhD, U. of Calgary, Canada, 1984.

**Assistant Professors**

Bahr, Kathleen S.(1970) BS, MS, Utah State U., 1968, 1970; PhD, Michigan State U., 1982.
Butler, Mark H. (1996) BS, MS, Brigham Young U., 1986, 1990.
Dollahite, David C. (1993) BA, MS, Brigham Young U., 1983, 1985; PhD, U. of Minnesota, 1988.
Garrison, Carolyn (1970) BS, Oregon State U., 1961; MS, Iowa State U. of Science and Technology, 1971; PhD, Purdue U., 1978.
Hawkins, Alan J. (1990) BS, MS, Brigham Young U., 1979, 1984; PhD, Pennsylvania State U., 1990.
Klein, Shirley R. (1986) BS, U. of Arizona, 1966; MS Brigham Young U., 1984, PhD, U. of Utah, 1990.
Olsen, Susanne Frost (1993) BS, MS, Brigham Young U., 1975, 1981; PhD, U. of Georgia, 1992.
Rowley, Maxine Lewis (1979) BA, Brigham Young U., 1960; BA, U. of Utah, 1974; MS, Utah State U., 1979, PhD, Brigham Young U., 1989.

**Emeriti**

Allred, G. Hugh (1966) BA, MA,Brigham Young U., 1957, 1960; EdD, U. of Oregon, 1966.
Barlow, Frances P. (1957) BS, MEd, Utah State U., 1933, 1938.
Bastian, Beth S. (1964) BS, Utah State U., 1950; MS, Kansas State U., 1955.
Cahoon, Owen W. (1970) BS, MS, Utah State U., 1963, 1964; DEd, Pennsylvania State U., 1970.
Cannon, Kenneth Lynn (1956) BS, Brigham Young U., 1935; MS, PhD, Iowa State U. of Science and Technology, 1948, 1954.
Devey, Ottella T. (1959) BS, MS, Brigham Young U., 1956, 1959.
Edwards, Kay P. (1974) BS, M.S, Utah State U., 1962, 1964; PhD, Cornell U., 1969.
Ellsworth, Carol (1969) BS, Colorado State U., 1951; MA, Columbia U., 1964; EdD, Brigham Young U., 1980.
Hoopes, Margaret H. (1970) BS, Ricks Coll., 1953; MS, Brigham Young U., 1962; PhD, U. of Minnesota, Minneapolis, 1969.
Knowles, Elmer M. (1962) BS, MS, Utah State U., 1949, 1950; PhD, Cornell U., 1952.
Lewis, Stella D. (1956) BS, MHE, Brigham Young U., 1938, 1966.
Moss, J. Joel (1961) BS, MS, Brigham Young U., 1948, 1949; PhD, U. of North Carolina, Chapel Hill, 1954.
Porter, Blaine R., (1955) BS, MA, Brigham Young U., 1947, 1949; PhD, Cornell U., 1952.
Taylor, Barbara J. (1957) BS, MS, PhD, Brigham Young U., 1957, 1960, 1971.

## Film

See Theatre and Film.

## Fine Arts (FnArt)

**270R. European Fine Arts.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su
Art, design, music, and theatre of host countries and other European cultures.

## Finnish

See Germanic and Slavic Languages.

# Food Science and Nutrition

Mark J. Rowe, Chair
475 WIDB, PO Box 25184, (801) 378-3912

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

Some degree programs in the Department of Food Science and Nutrition carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

As the world population grows, scientists trained in dietetics, food science, and nutrition will be in great demand. Qualified, intellectually motivated graduates with basic nutrition and food science skills are urgently needed to provide a nutritious, high-quality, and safe diet for the earth's inhabitants.

## Career Opportunities

Careers vary from dietitians to positions in the food industry or as a research scientist. Students interested in premedical or predental work can prepare for professional schools with a major in either food science or nutritional sciences.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Dietetics |
| BS | Food Science |
| BS | Molecular Biology |
| | Emphases: |
| | Food Science |
| | Nutritional Science |
| BS | Nutritional Science |
| Minor | Food Science and Nutrition |

**Coordinated Program in Dietetics:** The last students in the coordinated program were accepted in March 1996. This class will graduate in 1998. The didactic program continues, but with limited enrollment.

For help or information on the undergraduate programs, please see the College of Biology and Agriculture Advisement Center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Food Science |
| MS | Molecular Biology (collegewide interdisciplinary degree) |
| MS | Nutrition |

For more information see the 1996–97 BYU Graduate Catalog.

## BS Dietetics (87.5–98.5 hours*)

Following prerequisite courses, the Didactic Program in Dietetics (DPD) consists primarily of dietetics course work at the junior and senior level. It is approved by the American Dietetic Association (ADA), Commission on Accreditation/Approval for Dietetic Education. Following graduation, students must gain acceptance into and complete a nine- to twelve-month dietetic internship (DI) or approved practice program (APP) to qualify for the national examination required for Registered Dietitian (RD) status.

### Major Requirements

1. Acceptance into the program. Effective February 1997, applicants must have at least 300 hours of work and/or volunteer experience in a dietetics-related area to be considered for acceptance.
2. No D credit in required supporting courses and no grade lower than a B– in any food science and nutrition course will be counted toward the major.
3. Complete the following core requirements:
   FSN 100, 200, 290, 300, 344, 345, 356, 374, 375 (2 hours), 400, 401 (0.5 hour), 424, 440, 445, 458, 466, 475, 490R.

4. Select one of the following options:
   **Either** Chem 101, 152, 281.
   **Or** Chem 105, 106, 107, 351, 352, 481.
5. Complete the following:
   Math 110.
   Mcbio 221.
   Psych 111.
   Stat 221.
   Zool 260, 261, 361.
   Acc 200.
6. Select one course from the following:
   FSN 435.
   BusM 340.
7. Select one course from the following:
   Soc 323, 329.
8. Select one course from the following:
   Chem 103.
   Mcbio 222.

**Recommended Courses**

BusM 300.
Mcbio 391.
FSN 410, 470.
Comms 201.

*Hours include courses that may fulfill GE or university requirements.

## BS Food Science (75 hours*)

Food science is the application of chemistry, microbiology, and engineering to the production, processing, distribution, evaluation, and use of food. The many facets of food science—research, product development, processing, packaging, quality assurance, and marketing—create unique and challenging opportunities in industry, academia, and government. The food science curriculum is approved by the Institute of Food Technologists.

**Major Requirements**

1. No more than 3 hours of D credit in required supporting courses and no grade lower than C– in any food science and nutrition course will be counted toward the major.
2. Complete the following core requirements:
   FSN 200, 344, 345, 350, 360, 362, 450, 461, 465.
3. Complete the following:
   Chem 105, 106, 107, 281, 351, 352, 353 (1 hour).
   Comms 150.
   Engl 316.
   Math 112, 113.
   Mcbio 221, 222, 361.
   Phscs 105.
   Stat 221.

**Recommended Courses**

Consult with a faculty advisor before selecting:
AnSc 328.
AgHrt 240.
Chem 223.
Econ 110.
FSN 100, 191, 462.
Phscs 106, 107.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Food Science Emphasis (84 hours*)

This program is for the student who desires to apply the tools of molecular biology to the development, processing, or quality assurance of foods. Challenging opportunities await skilled people on the interface of these two fields. This program is excellent preparation for advanced degrees.

**Major Requirements**

1. No more than 3 hours of D credit in required supporting courses and no grade lower than C– in any food science and nutrition course will be counted toward the major.
2. Complete the following core requirements:
   FSN 200, 344, 345, 350, 362, 450, 461, 465.
3. Complete the following:
   Biol 130.
   Chem 105, 106, 107, 351, 352, 353 (1 hour), 481.
   Engl 316.
   Mcbio 351 (3 hours), 361, 441.
   Phscs 105, 106, 107, 108.
   Zool 371, 372, 373, 374.
4. Select one course from the following:
   Math 112, 119.
5. Select one course from the following:
   Mcbio 442.
   Chem 586.

**Recommended Course**

Chem 367.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology: Nutritional Science Emphasis (74 hours*)

Excellent preparation for advanced degrees, this program is for the student who desires to apply the tools of molecular biology to an understanding of nutrient action.

**Major Requirements**

1. No more than 3 hours of D credit in required supporting courses and no grade lower than C– in any food science and nutrition course will be counted toward the major.
2. Complete the following core requirements:
   FSN 100, 200, 300, 435, 494R (2 hours).
3. Complete the following:
   Biol 130.
   Chem 105, 106, 107, 351, 352, 353 (1 hour), 481.
   Mcbio 351 (3 hours), 441.
   Phscs 105, 106, 107, 108.
   Stat 221.
   Zool 371, 372, 373, 374, 460.
4. Select one course from the following:
   Math 112, 119.
5. Select one course from the following:
   Mcbio 442.
   Chem 586.

**Recommended Course**

Chem 367.

*Hours include courses that may fulfill GE or university requirements.

## BS Nutritional Science (74 hours*)

This degree provides excellent preparation for those individuals in preprofessional programs (e.g., premedicine, predentistry, prelaw) or for an advanced degree (MS, PhD) in nutrition or biological sciences.

**Major Requirements**

1. No more than 3 hours of D credit in required supporting courses and no grade lower than C– in any food science and nutrition course will be counted toward the major.
2. Complete the following core requirements:
   FSN 100, 200, 300, 344, 345, 435, 494R (2 hours).
3. After consulting with a faculty advisor, select 8 hours from the following:
   FSN 350, 400, 410, 424, 459, 531, 532.
   Hlth 478.
   Mcbio 391.
   Zool 371, 372, 373, 374, 561, 565.
4. Complete the following:
   Biol 130.
   Chem 105, 106, 107, 351, 352, 353 (1 hour), 481.
   Mcbio 221.
   Phscs 105, 106, 107, 108.
   Stat 221.
   Zool 460.
5. Select one course from the following:
   Math 112, 119.

**Recommended Courses**

Chem 223.
Zool 380.

*Hours include courses that may fulfill GE or university requirements.

## Minor Food Science and Nutrition (16 hours*)

Students may select specific classes to tailor the minor to meet specific needs. See a department advisor for assistance.

Select 16 hours from the following:
FSN 100, 200, 344, 345, 350, 360, 362, 410, 424, 435, 450, 461, 494R.

*Hours include courses that may fulfill GE or university requirements.

## Food Science and Nutrition (FSN)

### Undergraduate Courses

**100. Essentials of Human Nutrition.** (3:3:0) F, W, Sp, Su Independent Study also.
Food-oriented study of nutrition facts and principles as a basis for dietary choices; consequences of choices; scientifically examining controversial topics.

**191. Introduction to Food Science.** (1:1:0) F
Guest lectures and exposure to vocations in food science.

**200. Nutrient Metabolism.** (3:3:0) F, Sp Prerequisite: FSN 100 and organic chemistry, or concurrent registration.
Nutrient-oriented study of nutrition facts and principles; metabolic consequences of nutrient intakes; techniques of communicating valid nutrition concepts.

**203. (FSN-AgHrt-AnSc) Latin American Food Production and Nutrition.** (1:Arr.:0) F
Historical and present indigenous agricultural and nutritional practices throughout Latin America; successes, failures, problems, and solutions.

**290. Introduction to Dietetics.** (1:1:0) F
Guest lectures and introduction to specialties in dietetics.

**300. Clinical Nutrition 1.** (4:4:0) F Prerequisite: FSN 200, physiology, biochemistry, and food science and nutrition major.
Nutritional assessment and dietary modification for treatment of disease states.

**†Animal Science 328. Meat Processing Methods. (2:1:3)**

**344. Introduction to Food Chemistry.** (3:3:0) F, W, Sp Prerequisite: Mcbio 221, organic chemistry, and concurrent registration in FSN 345.
Chemical and physical properties of foods relative to preparation and processing.

**345. Introduction to Food Chemistry Laboratory.** (2:0:6) F, W, Sp Prerequisite: concurrent registration in FSN 344.

**350. Food Analysis.** (4:2:6) F even yr. Prerequisite: Chem 351, 352, 353; FSN 344, 345.
Principles, methods, and instrumentation involved in physical and chemical analysis of raw and processed foods.

**356. Clinical Nutrition 2.** (3:3:0) W Prerequisite: FSN 300 and instructor's consent.
Nutrition in the life cycle, critical care assessment, intervention, and evaluation.

**357. Clinical Nutrition Laboratory A.** (2:0:8) W Prerequisite: FSN 300 and concurrent registration in 356.
Dietary interviewing and education; planning, implementing, and evaluating dietary modification for hospitalized patients.

**360. Techniques for Sensory Evaluation.** (3:2:3) F odd yr. Prerequisite: Stat 221.
Basic principles and practical techniques for sensory evaluation; planning and executing sensory experiments.

**†Microbiology 361. Food and Dairy Microbiology. (3:2:3)**

**362. Food Commodity Processing.** (4:3:3) F even yr. Prerequisite: Phscs 105, Mcbio 221, 222.
Post-harvest characteristics and physiology of raw food commodities. Processing characteristics of each commodity, including cereals, fruits, vegetables, eggs, meats, and milk.

**374. Quantity Food Production and Service.** (2:2:0) F Prerequisite: FSN 200, 344, 345.
Processes and techniques of quantity food production for commercial and institutional food systems.

**375. Quantity Food Production and Service Laboratory.** (1–2:0:8) F, W Prerequisite: FSN 374 or concurrent registration.

**399R. Cooperative Education.** (1–9:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.
On-the-job experience.

**400. Community Nutrition.** (3:3:4) F Prerequisite: FSN 300 or instructor's consent.
Public health nutrition applied to community programs.

**401. Community Nutrition Fieldwork.** (0.5–1:0:2–4) F Prerequisite: FSN 300 and concurrent registration in 400.
Experience in public health and community nutrition programs.

**410. Sports Nutrition.** (2:2:0) F, W Prerequisite: FSN 100.
Basic principles and practical applications for physical education and athletics.

**424. Maternal and Child Nutrition and Health.** (2:2:0) W Prerequisite: FSN 300 or instructor's consent.
Nutrition during pregnancy, lactation, early infancy, and childhood.

**435. Nutritional Biochemistry.** (4:4:0) F Prerequisite: FSN 200; Zool 361 or 460; biochemistry or equivalent.
Metabolic interrelationships among nutrients.

**440. Teaching Methods in Dietetics.** (3:3:0) F
Learning settings, learning theory; curriculum development and dissemination for dietetics majors.

**445. Food Service Systems.** (3:3:0) W Prerequisite: FSN 374.
Input, transformation, and output in the food service system; emphasizes procurement, production, service, and sanitation.

**450. Food Chemistry.** (4:4:0) W odd yr. Prerequisite: FSN 344, 345.
Chemistry of chief components of food and effects of processing and storage on them.

**451. Clinical Nutrition Laboratory B.** (2:0:8) F Prerequisite: FSN 356, 357.
Application of skills in evaluating nutritional status of hospitalized patients; enteral and parenteral feeding; patient education; medical record documentation.

**458. Management in Dietetics.** (3:3:0) F Prerequisite: FSN 445.
Management cycle and theory applied to clinical and administrative dietetics.

**459. Clinical Pharmacology.** (2:2:0) F, W Prerequisite: biochemistry, Zool 361, or equivalent.
Overview of pharmacological principles of therapeutics as applied to clinically significant pathophysiological states.

**461. Food Process Engineering.** (4:3:3) W even yr. Prerequisite: Phscs 105.
Principles of fluid statics, fluid dynamics, heat transfer and psychromatics; unit operations including thermal processing, frying, irradiation, refrigeration, freezing, and dehydration in food processing.

**462. Food Regulations and Quality Assurance.** (2:2:0) W even yr. Prerequisite: Stat 221, Mcbio 221, 222.
Federal food regulations and methods used in quality assurance during commercial food production.

**463. Administrative Practicum** (5:3:Arr.) Sp, Su Prerequisite: FSN 374, 375.
Experience in food service.

**465. New Food Product Development.** (3:1:6) F Prerequisite: Mcbio 361, FSN 360, 362, 450, 461, or concurrent registration.
Ingredients and methods used to develop new foods.

**466. Advanced Dietetics Practice.** (3:3:0) W Prerequisite: FSN 356, 445.
Skills development in clinical and administrative dietetics emphasizing critical care nutrition and financial control in food service.

**467. Advanced Dietetics Practice Laboratory.** (6:0:32) W Prerequisite: FSN 451, 463, and concurrent registration in 466.
Advanced skill development in clinical and administrative dietetics.

**470. Herbs: Facts and Fallacies.** (2:2:0) F Prerequisite: an organic chemistry course or instructor's consent.
Objective analysis of therapeutic and nutritional claims made for herbs and natural products. Pharmacological, nutritional, and medical viewpoints explored.

**475. Research Methods in Dietetics.** (4:2:Arr.) W Prerequisite: FSN 458.
Research techniques in food service management.

**†Chemistry 481. Biochemistry. (4:4:0)**

**490R. Seminar.** (2:2:0 ea.) W Prerequisite: 10 credit hours in food science and nutrition or instructor's consent.

**492. Fieldwork in Food Science and Nutrition.** (1–8:0:24) Sp Prerequisite: 12–15 credit hours in food science and nutrition and instructor's consent.

**494R. Special Problems in Food Science and Nutrition.** (1–3:0:9 ea.) F, W, Sp, Su Independent Study Also. Prerequisite: instructor's and department chair's consent; 14 hours of food science and nutrition courses.
Individual study for qualified students.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501R. (FSN-AgHrt-AnSc) Village Agriculture and Nutrition in Latin America.** (1:Arr.:0 ea.) W Prerequisite: experience in Latin America and/or issues relative to the seminar.
Problems, successes, failures and challenges facing those who work in agricultural research, training, and development related to small-scale farmers.

**531. Advanced Human Nutrition 1.** (3:3:0) F Prerequisite: FSN 435 or equivalent.
Nutritional status and basis of recommendations for carbohydrates, lipids, protein, and energy.

**532. Advanced Human Nutrition 2.** (3:3:0) W Prerequisite: FSN 435 or equivalent.
Nutritional status and basis of recommendations for vitamins, minerals, and water.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Food Science and Nutrition Faculty

**Professors**

Hill, John M. (1971) BA, PhD, Rice U., 1961, 1965.
Huber, Clayton S., Dean (1976) BS, MS, Utah State U., 1962, 1963; PhD, Purdue U., 1968.
Rowe, Mark J. (1987) BS, PhD, Brigham Young U., 1968, 1972.
Woolley, Bruce H. (1977) BS, U. of Utah, 1965; PharmD, U. of Southern California, 1972.

**Associate Professors**

Christensen, Merrill J. (1982) BS, Brigham Young U., 1977; PhD, Massachusetts Inst. of Technology, 1982.
Franz, Kay B. (1968) BS, U. of California, Berkeley, 1958; MS, Brigham Young U., 1968; PhD, U. of California, Berkeley, 1978.
Ogden, Lynn V. (1984) BA, MS, Utah State U., 1966, 1967; PhD, U. of Minnesota, 1973.
Pike, Oscar A. (1986) BS, MS, Brigham Young U., 1980, 1982; PhD, Purdue U., 1986.

**Assistant Professors**

Brown, Lora Beth (1983) BS, Iowa State U., 1965; MS, Cornell U., 1967; EdD, Brigham Young U., 1982.
Nyland, Nora K. (1982) BS, MS, Brigham Young U., 1974, 1981; PhD, Kansas State U., 1989.
Steele, Frost M. (1996) BS, MS, Brigham Young U., 1985, 1987; PhD, Purdue U., 1990.

**Instructors**

McGuire, Diana L. (1988) BS, MS, Brigham Young U., 1974, 1976.

Todd, Alyce C. (1987) BS, Brigham Young U., 1984; MS, U. of Arizona, 1986.

**Research Associate**

Purcell, Albert E. (1979) BS, Brigham Young U., 1947; MS, PhD, Purdue U., 1949, 1951.

**Adjunct Faculty**

Anderson, Austin, Bridge, Calder, Dittfurth, Eliason, Faulk, Hawkes, Hunter, Liston, McClellan, Nielsen, Overturf, Phillips, Rackley, Radford, Scott, Thorne, Ware.

**Emeriti**

Bates, Winifred W. (1977) BS, Utah State U., 1944; MJ, U. of California, Berkeley, 1965.

Call, Ara O. (1965) BS, Iowa State U. of Science and Technology, 1933; MS, U. of Wisconsin, Madison, 1944.

Doxey, Ruth T. Walker (1972) BS, U. of Alberta, Canada, 1941; MS, Washington State U., 1943; PhD, U. of Wisconsin, Madison, 1972.

Johnson, John Hal (1969) BS, MS, Brigham Young U., 1955, 1957; PhD, Ohio State U., 1963.

Turner, Lavell G. W. (1963) BS, Brigham Young U., 1954; MS, U. of Wisconsin, Madison, 1959.

# French and Italian

Madison U. Sowell, Chair
4002 JKHB, PO Box 26116, (801) 378-2542

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of French and Italian are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

The study of French or Italian language and literature sharpens analytical and communicative skills. Students learn to read a text intelligently, formulate ideas around the issues and values in the text, and communicate those ideas cogently in both written and oral forms.

## Career Opportunities

Italian and French are valuable research and communication tools for students in music, art, history, European studies, international relations, library science, and comparative literature. Many have chosen a major or minor in Italian or French in addition to a second major or minor in an area such as accounting or business management, or as preparation for professional programs in public administration, business administration, organizational behavior, dentistry, law, or medicine.

Many of our students have opted for a career in government service, working with an embassy, the State Department, the CIA, and other government agencies.

Other students have gone into travel and tourism, working with tour agencies, airlines, major hotel chains, or resort communities.

The computer industry is a newly opening employment opportunity for our graduates. Many of these computer companies have expanded into foreign markets and hire people who can write computer equipment manuals and software instruction and sales publications in a foreign language.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | French |
| BA | Honors in French and University Honors |
| BA | French Teaching |
| BA | Italian |
| BA | Honors in Italian and University Honors |
| Minor | French |
| | French Teaching |
| | Italian |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | French Studies |
| MA | Language Acquisition (French) |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

**Internships Abroad.** Eight-week summer work abroad is available in France, Belgium, and Switzerland, where interns receive financial compensation while performing such services as clerking in grocery and department stores, doing accounting in banks, and serving as *au pairs*. Students may enroll for cooperative education credit (399R) and conversation credit (211R, 311R, or 411). The internship proves invaluable in strengthening language skills.

**Oral Proficiency Interview.** All *majors* and *teaching minors* are required to enroll in Fren 491 or Ital 491 and have an oral proficiency interview (OPI) during the senior year. The results of the OPI are recorded on the student's transcript. (An interview is optional for departmental minors.) The desired minimum

rating is *Advanced*. Appointments for the interviews are made through the department secretary.

When it is necessary to strengthen oral proficiency, students are offered various opportunities: conversation courses, the Foreign Language Student Residence, Study Abroad programs, summer internships abroad, and support materials in the Humanities Learning Resource Center, such as tapes, videos, and satellite broadcasts.

**Instruction.** All courses are taught in the target language unless indicated otherwise in this catalog.

# French

## General Information

**Language Credit by Examination.** A student enrolled full-time at BYU whose native language is English may receive credit by special examination for French for which he or she has acquired the equivalent skill or knowledge. However, this is possible only if no university credit has been given through AP, CLEP, or transfer of equivalent credit from another university or other institutions.

The French Language for Credit Examination is administered by the French and Italian Department only twice a year: in November during fall semester and in March during winter semester. Details about this examination will be given by the student's Fren 201, 202, or 321 teacher. Please note that students can test out of classes as follows, depending on a student's status:

*Freshmen who start with French 201 can test out of:*
Fren 101, 102, and 211R (10 hours).

*Freshmen or returned missionaries from Quebec or Creole-speaking missions, etc., who start with Fren 202 (this class fulfills the GE requirement for returned missionaries from the above missions) can test out of:*
Fren 101, 102, 201, and 211R (14 hours)

*Returned missionaries from France, Belgium, Switzerland, etc., can test out of:*
Fren 101, 102, 201, 211R, and 311R (16 hours)
For returned missionaries to be eligible to take the exam, they need to be enrolled in Fren 321.

**Note:** The above five classes are *not* part of a French minor. The first French minor class requirement is Fren 321.

**Note:** Fren 340 fulfills the GE Foreign Language option for returned missionaries from France, Belgium, and Switzerland. Fren 321 does not.

**Accelerated and Intensive Programs.** Beginning: The department offers an accelerated course in beginning French (101 and 102) every fall and winter semester. These courses are offered on the block.

Intermediate: Students who have taken Fren 101 and 102 or their equivalent may enroll for 9 hours (201, 202, 211R) of intensive intermediate language during a 2-hour block when offered. Majors and minors are urged to enroll in this program.

**Foreign Language Student Residence.** An excellent alternative to or preparation for foreign residency is offered through the Foreign Language Student Residence, where participants speak, eat, and live with a *French only* rule. This program, with numerous cultural opportunities, is available each semester to women and men who have completed at least one year of college French. Residents may also receive 2 hours of conversation credit per semester by enrolling in a specially designated section of 211R or 311R.

**Study Abroad Programs.** All students of French are encouraged to participate in a Study Abroad program. Study Abroad typically offers a French Intensive Program in conjunction with Laval University Summer School in Quebec City, Canada, or a culture and civilization program in Paris, France. Both provide excellent opportunities for developing language proficiency and better understanding of the history and culture of French-speaking countries.

## BA French (45–51 hours*)

**Major Requirements**

1. At least 15 major hours must be completed in residence at BYU.
2. No D credit is allowed in major or minor courses.
3. Complete a minor (approximately 16–21 hours) or 15 hours of course work in an area approved by the major advisor. Courses must be approved before the senior year.
4. Complete the following core requirements:
   Fren 321, 322, 326, 340, 420, 421.
5. Select four courses from the following:
   Fren 439, 441, 442, 443, 444, 495R.
6. Complete Fren 491 and have an oral proficiency interview (OPI) during the senior year (last semester before graduating). The rating will be recorded on the student's transcript. The minimum acceptable OPI rating is *Advanced*.

**Recommended**

Students who need to strengthen oral skills should enroll in Fren 211R and 311R.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in French and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA French Teaching (63–64 hours,* including certification hours)

1. At least 18 major hours must be completed in residence at BYU.
2. No D credit is allowed in major or minor courses.
3. A teaching minor is not required for certification. However, it is strongly recommended.
4. Complete the following:
   Fren 321, 322, 326, 340, 377, 378, 420, 421.
5. Select four courses from the following:
   Fren 439, 441, 442, 443, 444, 495R.
6. Complete Fren 491 and have an oral proficiency interview (OPI) during the senior year (last semester before graduating). The rating will be recorded on the student's transcript. The minimum acceptable OPI rating is *Advanced*.
7. Complete the Professional Education Component (27–28 hours: see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor French (18 hours*)

1. Complete the following:
   Fren 321, 322, 326, 340, 420, 421.
2. At least 9 minor hours must be taken in residence at BYU.
3. No D credit is allowed in minor courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor French Teaching (21 hours*)

1. Complete the following:
   Fren 321, 326, 340, 377, 378, 420, 421, 491.

   **Note:** Fren 377 must be taken before student teaching.
2. At least 12 minor hours must be taken in residence at BYU.
3. No D credit is allowed in minor courses.

*Hours include courses that may fulfill GE or university requirements.

## French (Fren)

### Undergraduate Courses

**101. First-Year French, Part 1.** (4:5:2)
Development of the four language skills: understanding, speaking, reading, and writing.

**102. First-Year French, Part 2.** (4:5:2) Prerequisite: Fren 101 or equivalent.
Continuation of French 101.

**121. Intensive Reading in French.** (4:4:0) For students with little or no French.
Reading for research purposes, including reading skills in area of student's specialization or interest. Graduate students will be graded pass/fail. Undergraduates will receive letter grades. Conducted in English.

**122. Intensive Reading in French.** (4:4:0) Prerequisite: Fren 121.
Continuation of French 121.

**201. Intermediate French, Part 1.** (4:5:2) Independent Study also. Prerequisite: Fren 102 or equivalent.
Reading, writing, conversation, vocabulary building, and review of grammar.

**202. Intermediate French, Part 2.** (3:3:0) Prerequisite: Fren 201 or equivalent.
Final course for GE Foreign Language requirement (except for returned missionaries); extensive reading in French literature and culture.

**211R. Second-Year Conversation.** (1–3:Arr.:Arr. ea.) Prerequisite: Fren 102 or equivalent. May be taken concurrently with Fren 201.

**217. (Fren-Ital) French and Italian Cinema.** (3:3:2)
Background for understanding and appreciating the best of motion picture art in France and Italy. Language of instruction is English; no knowledge of French or Italian required.

**311R. Third-Year Conversation.** (1–3:Arr.:Arr. ea.) Prerequisite: Fren 211R or instructor's consent. May be taken concurrently with 340.

**321. Advanced Grammar.** (3:3:0) Prerequisite: Fren 202 or equivalent.
Systematic review of French grammar and syntax.

**322. Advanced Composition.** (3:3:0) Prerequisite: Fren 321.
Expository writing (narration, description, dialogue, explication de texte, etc.).

**326. French Phonetics and Pronunciation.** (3:3:2) Prerequisite: Fren 321.
Theoretical and practical phonetics.

**340. Introduction to Literary Analysis.** (3:3:0) Prerequisite: Fren 202 or equivalent. Recommended: Fren 321.
How to read French prose, drama, and poetry and apply methods of literary criticism. Capstone course for GE Foreign Language requirement for returned missionaries.

**345. Francophone Culture.** (3:1:3) Prerequisite: Fren 102 or equivalent.
Study Abroad only.

**377. French Language Teaching Procedures 1.** (3:3:2) Prerequisite: Fren 321, 326; 420 or 421; ScEd 276R for students planning to certify.
Mastery of teaching skills specific to foreign language instruction in beginning courses. Lectures, demonstrations, practice in instruction. Conducted in French and English.

**378. French Language Teaching Procedures 2.** (3:3:2) Prerequisite: Fren 377.
Mastery of teaching skills specific to foreign language instruction in intermediate courses. Materials development, use of instructional media, testing, microteaching.

**399R. Cooperative Education: French Language Field Experience.** (1–6:0:0 ea.) Prerequisite: program coordinator's consent.
On-the-job experience in French.

**411. Fourth-Year Conversation.** (2:2:1) Prerequisite: Fren 311R or equivalent.

**420. French Civilization from the Beginning to 1715.** (3:3:0) Prerequisite: Fren 340.
Historical survey of institutions, fine arts, and social conditions to the death of Louis XIV. Prerequisite to Fren 441, 442, 495R.

**421. French Civilization from 1715 to the Present.** (3:3:0) Prerequisite: Fren 340.
Historical survey of institutions, fine arts, and social conditions. Prerequisite to Fren 439, 443, 444, 495R.

**439. Francophone Literature.** (3:3:0) Prerequisite: Fren 340, 421.
Readings from major twentieth-century French writers outside France, e.g., Canada, the Caribbean, and Africa.

**441. French Literature—Middle Ages and Sixteenth Century.** (3:3:0) Prerequisite: Fren 340, 420.
Readings in hagiography, epic, romance, contes, fabliaux, lais, and lyric poetry.

**442. French Literature—Seventeenth and Eighteenth Centuries.** (3:3:0) Prerequisite: Fren 340, 420.
Origins and concept of French classicism and development of "Movement Philosophique."

**443. French Literature of the Nineteenth Century.** (3:3:0) Prerequisite: Fren 340, 421.
Significant literary movements (romanticism, symbolism, realism, and naturalism) that shaped poetry, the novel, and theatre during the nineteenth century.

**444. French Literature of the Twentieth Century.** (3:3:0) Prerequisite: Fren 340, 421.
Readings in the modern novel, existentialism, theatre of the absurd, and the nouveau roman.

**490R. Individual Study in French.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Assignments to fit individual needs of the advanced student. Not accepted for major or minor.

**491. Senior Oral Proficiency Evaluation.** (0:0:0)
Required of all majors and teaching minors during the senior year.

**495R. Senior Seminar in French.** (3:3:0) Prerequisite: Fren 340, 420, 421.
In-depth study of a limited area of literature, language, or criticism; content varies; requires research and writing.

**499R. Honors Thesis.** (1–6:0:0 ea.)

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## *Italian*

### General Information

**Language Credit by Examination.** A student enrolled full-time at BYU whose native language is English may receive credit by special examination for Italian for which he or she has acquired the equivalent skill or knowledge. However, this is possible only if no university credit has been given through AP, CLEP, or transfer of equivalent credit from another university or other institutions.

The Italian Language for Credit Examination is administered by the French and Italian Department only twice a year: in November during fall semester and in March during winter semester. Details about this examination will be given by the student's Ital 321 teacher.

*Returned missionaries from Italy can test out of:*
Ital 101, 102, 201, 211R, and 311R (16 hours)

For returned missionaries to be eligible to take the exam, they need to be enrolled in Ital 321.

**Note:** The above five classes are *not* part of the Italian minor. The first class for the Italian minor is Ital 321.

**Note:** Ital 340 fulfills the GE Foreign Language option. Ital 321 does not.

**Foreign Language Student Residence.** In addition to BYU's spring or summer term in Italy, intensive "live-in" experience is available in the Foreign Language Student Residence. Besides taking regular courses in the department, students participate in lectures, discussions, films, and related extracurricular activities under the supervision of native Italian head residents. Vital to the success of the program is the 24-hour *Italian only* rule whereby students use Italian language as their only means of communication while they are at home. Participants may receive 2 credit hours per semester by enrolling in Ital 211R or 311R.

**Study Abroad Program.** All students of Italian are encouraged to participate in a Study Abroad program in Italy offered spring or summer term (usually every other year). This program provides excellent opportunities for developing language proficiency and understanding the rich culture of Italy.

### BA Italian (45–51 hours*)

Major Requirements

1. At least 15 major hours must be completed in residence at BYU.
2. No D credit is allowed in major or minor courses.
3. Complete a minor (approximately 16–21 hours) or 15 hours of course work in an area approved by the major advisor. Courses must be approved before the senior year.
4. Complete the following core requirements:
   Ital 321, 322, 326, 340.
5. Select six courses from the following:
   Ital 420, 421, 441, 442, 443, 444, 460, 495R.
6. Complete Ital 491 and have an oral proficiency interview (OPI) during the senior year (last semester before graduating). The rating will be recorded on the student's transcript. The minimum acceptable OPI rating is *Advanced*.

*Hours include courses that may fulfill GE or university requirements.

### BA Honors in Italian and University Honors

For more information on this degree program, see your college advisement center.
See also the University Honors Education section of this catalog.

### Minor Italian (18 hours*)

1. Complete the following:
   Ital 321, 322, 326, 340.
2. Select two courses from the following:
   Ital 420, 421, 441, 442, 443, 444, 460, 495R.
3. At least 9 minor hours must be completed in residence at BYU.
4. No D credit is allowed in minor courses.

*Hours include courses that may fulfill GE or university requirements.

### Italian (Ital)

### Undergraduate Courses

**101. First-Year Italian, Part 1.** (4:5:2)
Daily development of the four language skills: understanding, speaking, reading, and writing.

**102. First-Year Italian, Part 2.** (4:5:2) Prerequisite: Ital 101 or equivalent.
Continuation of Ital 101.

**201. Intermediate Italian 1.** (4:5:1) Prerequisite: Ital 102 or two years of high school Italian or equivalent.
Reading, writing, conversation, vocabulary building, and review of grammar.

**202. Intermediate Italian 2.** (3:3:0)
Final course for GE Foreign Language requirement (except for returned missionaries); extensive reading in Italian literature and culture.

**211R. Second-Year Conversation.** (1–3:Arr.:Arr. ea.) Prerequisite: Ital 102 or equivalent. May be taken concurrently with Ital 201.

**217. (Fren-Ital) French and Italian Cinema.** (3:3:2)
Background for understanding and appreciating the best of motion picture art in France and Italy. Language of instruction is English; no knowledge of French or Italian required.

**311R. Third-Year Conversation.** (1–3:Arr.:Arr. ea.) Prerequisite: Ital 211R or instructor's consent. May be taken concurrently with Ital 340.

**321. Advanced Grammar.** (3:3:0) Prerequisite: Ital 202 or equivalent.
Intensive review of grammar; vocabulary building.

**322. Advanced Composition.** (3:3:0) Prerequisite: Ital 321 or equivalent.
Italian syntax and composition.

**326. Italian Phonetics and Pronunciation.** (3:3:0) Prerequisite: Ital 321 or equivalent.
General rules of pronunciation. Introduction to history of Italian language.

**340. Introduction to Italian Literature.** (3:3:0) Prerequisite: Ital 202 or equivalent. Recommended: Ital 321.
Basic literary concepts and terms coupled with readings of Italian works from various genres and periods. Capstone course for GE Foreign Language requirement for returned missionaries.

**399R. Cooperative Education: Italian Language Field Experience.** (1–6:0:0 ea.) Prerequisite: program coordinator's consent.
On-the-job experience in Italian.

**411. Fourth-Year Conversation.** (2:2:0) Prerequisite: residency in the Foreign Language Student Residence.

**420. Italian Civilization from the Beginning to 1600.** (3:3:0) Prerequisite: Ital 340.
Survey of institutions, fine arts, and great writers that shaped the history of Italy from the barbarian invasions through the Renaissance.

**421. Italian Civilization from 1600 to the Modern Era.** (3:3:0) Prerequisite: Ital 340.
Survey of institutions, fine arts, and great writers that shaped the history of Italy from the Baroque period to the modern era.

**441. Italian Literature of the Late Middle Ages and Renaissance.** (3:3:0) Prerequisite: Ital 340.

**442. Italian Literature of the Baroque and Enlightenment Periods.** (3:3:0) Prerequisite: Ital 340.

**443. Italian Literature of the Romantic Period.** (3:3:0) Prerequisite: Ital 340.

**444. Italian Literature of the Twentieth Century.** (3:3:0) Prerequisite: Ital 340.

**460. Dante's *Divine Comedy.*** (3:3:0)
Intensive examination of Dante's major opus. Lectures in English with bilingual text. Italian majors and minors must read the work in the original for credit.

**490R. Individual Study in Italian.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Assignments to fit individual needs of the advanced student. Not accepted for major or minor.

**491. Senior Oral Proficiency Evaluation.** (0:0:0)
Required of all majors during the senior year.

**495R. Senior Seminar in Italian.** (3:3:0) Prerequisite: Ital 340 or instructor's consent.
In-depth study of a limited area of literature, language, or criticism; content varies; requires research and writing.

**499R. Honors Thesis.** (1–6:0:0 ea.)

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## French and Italian Faculty

**Professor**
Sowell, Madison U. (1979) BA, Brigham Young U., 1975; MA, PhD, Harvard U., 1976, 1979.

**Senior Lecturers**
Noble, Cinzia D. (1980) BA, Brigham Young U., 1978; Dott. in Lett., G. D'Annunzio, Italy, 1979.
Thompson, Chantal P. (1973) BA, U. of Rennes, France, 1968; BA, MA, Brigham Young U., 1970, 1972.

**Associate Professors**
Bush, Michael D. (1992) BA, Brigham Young U., 1972; MBA, U. of Missouri, 1976; PhD, Ohio State U., 1983.
Klein, Ilona (1994) Dott. in Lett., U. of Rome, Italy, 1981; MA, PhD, U. of Wisconsin, Madison, 1982, 1986.
Lambert, L. Gary (1969) BA, U. of California, Berkeley, 1963; MA, U. of California, Santa Barbara, 1965; PhD, Rice U., 1969.

**Assistant Professors**
Bell, Mark E. (1991) BA, Brigham Young U., 1976; MPhil, U. of Birmingham, England, 1989; PhD, U. of Utah, 1991.
Cottle, Michaela V. (1989) BA, Brigham Young U., 1977; MA, PhD, U. of North Carolina, Chapel Hill, 1985, 1992.
Hurlbut, Jesse D. (1994) BA, Brigham Young U., 1980; MA, U. of California, Santa Barbara, 1982; PhD, Indiana U., 1990.
Le Bras, Yvon R. (1993) BA, MA, U. of Rennes, France, 1970, 1972; MA, Brigham Young U., 1972; PhD, Laval U., Canada, 1992.
Sprenger, Scott M. (1993) BA, MA, U. of Washington, 1983, 1986; MA, Johns Hopkins U., 1990; PhD, Emory U., 1995.
Unlandt, Nicolaas G. W. (1990) BA, MA, DLitt, U. of Amsterdam, Holland, 1983, 1985, 1992.

**Visiting Instructors**
Welch, Norma Jean (1993) BA, Utah State U., 1967; MA, Brigham Young U., 1970.
Whiteley, Jeffrey K. (1994) BA, MA, Brigham Young U., 1978, 1994.

**Emeriti**
Ashford, Josette B. (1969) BA, PhD, Brigham Young U., 1967, 1972.
Brown, Thomas H. (1960) BA, Brigham Young U., 1955; MA, PhD, U. of Illinois, 1957, 1960.
Clark, Hoover W. (1964) BA, MA, Brigham Young U., 1954, 1958; PhD, Syracuse U., 1964.
Green, John A. (1964) BA, MA, Brigham Young U., 1954, 1955; PhD, U. of Washington, 1960.
Jensen, Don C. (1963) BA, MA, Brigham Young U., 1960, 1963; PhD, U. of Minnesota, Minneapolis, 1972.
Kimball, M. Douglas (1967) BA, MA, U. of Utah, 1953, 1964; PhD, Brigham Young U., 1970.
Slade, J. Keith (1963) BA, U. of Arizona, 1959; MA, Brigham Young U., 1960.
Turner, Norman C. (1970) BA, MA, Brigham Young U., 1957, 1958; PhD, Syracuse U., 1962.

# Genealogy

See History and Church History and Doctrine.

# Geography

Richard H. Jackson, Chair
690-E SWKT, PO Box 25462, (801) 378-6063

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Geography are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Geography offers a variety of programs centered around spatial analysis and tailored, so far as possible, to meet the future needs of individual students. Our modern computer laboratory allows students to gain practical experience with geographical information systems (GIS), cartography, and other programs in planning, urban, travel, and population studies.

## Career Opportunities

Graduates are employed in a wide range of both private and governmental positions. Job titles include geographer; teacher of geography; city or regional planner; cartographer; photo interpreter; commodities and industrial location analyst; intelligence, travel industry, or environmental specialist; and many others.

Skills in spatial analysis make geography a valuable minor or supporting field for many other disciplines.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Geographic Information Systems |
| BS | Geography |
| BS | Geography Teaching |
| BS | Planning and Resource Management |
| BS | Travel and Tourism |
| Minors | Geographic Information Systems |
| | Geography |
| | Geography Teaching |
| | Travel and Tourism |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Geography

For more information, see the 1996–97 Graduate Studies Catalog.

## General Information

1. Core Classes: all students pursuing an undergraduate degree in any of the majors offered by the Geography Department must complete the following core courses:
   Geog 101, 120, 211, 300, 301, 322.
2. Prerequisites: all students admitted to one of the geography majors listed above must complete the following courses within one year of declaring a major:
   Geog 101, 120, 211, 300.

## BS Geographic Information Systems (44–47 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Prerequisites: Complete the following core courses within one year of declaring this major:
   Geog 101, 120, 211, 300.
3. Complete the following:
   Geog 212, 301, 312, 322, 412, 512, 517, 519.
   CS 130.
4. Select three courses from the following:
   Geog 313, 430, 513, 515, 518R.
5. Select one regional course from the following:
   Geog 455, 460, 465, 470, 471, 480, 485.

6. Majors are strongly encouraged to also take course work in a systematic area such as urban studies, land use planning, or climatology.

*Hours include courses that may fulfill GE or university requirements.

## BS Geography (34–38 hours*)

Major Requirements

1. No D credit is allowed in major courses.
2. Prerequisites: Complete the following core courses within one year of declaring this major:
   Geog 101, 120, 211, 300.
3. Complete the following:
   Geog 212, 301, 322, 450.
4. Select two regional courses from the following:
   Geog 455, 460, 465, 470, 471, 480, 485, 502R.
5. Select three systematic courses from the following:
   Geog 302, 310, 312, 313, 331, 341, 346, 350R, 370, 371, 401, 405, 501R.

*Hours include courses that may fulfill GE or university requirements.

## BS Geography Teaching (67–72 hours,* including certification hours)

Major Requirements

1. No D credit is allowed in major courses.
2. A teaching minor is not required for certification. However, it is strongly recommended.
3. Prerequisites: Complete the following core courses within one year of declaring this major:
   Geog 101, 120, 211, 300.
4. Complete the following:
   Geog 212, 301, 322, 331, 450.
5. Select two regional courses from the following:
   Geog 455, 460, 465, 470, 471, 480, 485, 502R.
6. Select three systematic courses from the following:
   Geog 302, 310, 312, 313, 331, 341, 346, 370, 371, 401, 405, 501R.
7. Complete the Professional Education Component (30–31 hours); see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Planning and Resource Management (46 hours*)

Major Requirements

1. No D credit is allowed in major courses.
2. Prerequisites: Complete the following core courses within one year of declaring this major:
   Geog 101, 120, 211, 300.
3. Complete the following:
   Geog 212, 301, 302, 310, 322, 331, 410, 412, 450.
4. Select 9 hours from the following (or courses approved by advisors):
   Geog 331, 341, 399R, 401, 405, 510, 518R.
   CM 417, 426.
   VAHis 365.

*Hours include courses that may fulfill GE or university requirements.

## BS Travel and Tourism (41–57 hours*)

Major Requirements

1. No D credit is allowed in major courses.
2. Prerequisites: Complete the following core courses within one year of declaring this major:
   Geog 101, 120, 211, 300.
3. Complete the following:
   Geog 270, 301, 322, 352, 370, 371, 450.
4. Select one of the following regional courses:
   Geog 455, 460, 465, 470, 471, 480, 485, 502R.
5. With approval from advisor select two courses from management, communications, organizational behavior, or an approved minor.

*Hours include courses that may fulfill GE or university requirements.

## Minor Geographic Information Systems (18 hours)

Complete the following:
Geog 211, 212, 312, 412, 512, 515, 518R.

## Minor Geography (17 hours)

Complete the following:
Geog 101, 120, 211, 300, 301, 322.

## Minor Geography Teaching (16 hours)

Complete the following:
Geog 101, 120, 211, 301, 322, 450.

## Minor Travel and Tourism (18 hours)

1. Complete the following:
   Geog 120, 270, 352, 370, 371.
2. Select one regional course from the following:
   Geog 450, 455, 460, 465, 470, 471, 480, 485, 502R.

# Geography (Geog)

## Undergraduate Courses

**101. Introduction to Physical Geography.** (3:3:0) F, W, Sp, Su Independent Study also.

Physical environment, distribution and interrelationships of climates, landforms, ecosystems and their human significance.

**120. Geography and World Affairs.** (3:3:0) F, W, Sp, Su Independent Study also.
Survey of the world, stressing geography of major political regions.

**199R. Cooperative Education.** (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: department chair's, cooperative education coordinator's, and faculty supervisor's consent.
Evaluated work experience.

**211. Maps and Air Photographs.** (3:2:2) F, W, Sp or Su
Maps and air photographs as tools for spatial analysis of problems in physical and cultural geography.

**212. Introduction to Geographic Information Systems.** (2:1:2) F, W
Concepts in the use of small- and large-scale digital map data, emphasizing landscape interpretation and feature description.

**270. Travel Planning, Rates, and Tariffs: Domestic and International.** (4:4:0) F, W, Sp
Procedures of domestic and international trip planning, including ticketing, routing, fare structure, rates, and tariffs.

**275. Tourism Automation.** (2:1:1) F, W, Sp Prerequisite: Geog 270.
Computer usage for international and domestic scheduling, reservations, and ticketing.

**300. Analytical Methods in Geography.** (3:3:0) F, W, Sp or Su
Methodology of spatial analysis. Theory and techniques in geographic data description and population inference.

**301. Cultural Geography.** (3:3:0) F, W, Alt. term
Culture distributions and their relationship to existing geographic phenomena.

**302. Geography of Urban Environment.** (3:3:0) F
Urban patterns, city structures, and spatial analysis of cities as they affect their residents.

**310. Principles of Land Use Planning.** (3:3:0) F
Land use concepts, practical and theoretical problems, activities, and techniques.

**312. Cartographic Design.** (4:2:4) F Prerequisite: Geog 211.
Graphic perception, layout, typography, color, statistical methods, and symbolization of thematic maps through computer-aided techniques.

**313. Remote Sensing of Environment.** (3:3:0) WPrerequisite: Geog 211, 212
Introduction to airborne and spaceborne sensors, including instrument characteristics, image acquisition, georeferencing, enhancement, and classification. Emphasizes land cover mapping applications appropriate for environmental monitoring.

**321. Geographic Modes and Models.** (2:2:0) F
Historical background and present diversity in geographical analysis, with attention to more common models used.

**322. Design and Methodology in Geographic Inquiry.** (2:2:0) F, W Prerequisite: Soc 205 or comparable background course in statistics.
Organizing, acquiring, and using geographic data for research purposes; emphasizes learning and applying research techniques in individual geographic projects.

**331. Economic Geography.** (3:3:0) F, Alt. term
Introduction to economic processes and spatial patterns, emphasizing theoretical approaches, locational strategies, and changing economic land-use patterns.

**341. Political Geography.** (3:3:0) F, W
Spatial analysis of global politics; focus on geopolitics, territory and conflict, nationalism, and the politics of resources.

**346. Population Geography.** (3:3:0) W odd yr.
Spatial perspective on wide field of population studies, focusing on distribution, development, structure, and movement of populations; introduction to basic demographic measures.

**350R. Topics in Systematic Geography.** (3:3:0 ea.)
Detailed investigation of selected systematic topics; emphasis on current world affairs and problems.

**352. Tour Operation.** (3:3:0) F, W Independent Study also.
Broad overview of tour operations; travel counseling.

**370. Tourism: A Conceptual Framework.** (3:3:0) F, Sp Independent Study also.
Introduction to tourism as a field of study; four elements of tourism: dynamic, service, functional, and consequential.

**371. Tourism: Patterns and Analysis.** (3:3:0) W, Sp Independent Study also.
Patterns in domestic and international tourism; interrelationship between geography and tourism in understanding the patterns and their impact.

**399R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su
On-the-job experience. No more than 3 hours total in cooperative education may be counted in major.

**401. Geography of Climates.** (2:2:0) W Prerequisite: Geog 101 or instructor's consent.
Elements, controls, distribution, and classification of the earth's climates.

**405. Geography of Landforms.** (2:2:0) F Prerequisite: Geog 101 or instructor's consent.
Elements of landforms: distributions and cultural significance.

**410. Practices of Land Use Planning.** (3:3:0) W Prerequisite: Geog 310.
Applications of methods and techniques commonly used in the land use planning process, emphasizing data collection and analysis, fieldwork, and writing skills.

**412. Vector Methods in Geographic Information Systems.** (3:2:2) W Prerequisite: Geog 212 or instructor's consent.
Theory and practice of vector GIS data acquisition, editing, and analysis.

**430. Image Processing and Interpretation.** (2:2:0) F odd yr. Prerequisite: Geog 313.
Computer processing of low-altitude and satellite images for geographic analysis of physical and cultural phenomena on earth.

**450. United States and Canada.** (3:3:0) F, W Independent Study also.
Analysis of the natural environment, historical development, cultural patterns, economic systems, and political structures of geographic regions.

**455. Middle and South America.** (3:3:0) W
Environmental, cultural, economic, and political parameters of Latin American societies.

**460. Europe.** (3:3:0) F
Systematic approach to physical base, social and political problems, economic issues, and regional summary.

**465. Commonwealth of Independent States (formerly USSR).** (3:3:0) W
Physical features, resources, political issues, economy and industries, population concerns, and role in world affairs.

**470. Asia.** (3:3:0) W odd yr.
Physical, social, economic, and political influences in cultures of South, East, and Southeast Asia.

**471. Middle East.** (3:3:0) F even yr.
Physical and cultural geography of Southwest Asia and North Africa, emphasizing the cultural mosaic, geopolitics, environment, and resources of the region.

**480. Australia and New Zealand.** (2:2:0) F odd yr.
Comparison of physical patterns, historical development, and present cultural patterns.

**485. Sub-Saharan Africa.** (3:3:0) W even yr.
Geographical analysis with a focus on resource management, political issues, development, environmental problems, economic development, and urban-rural change; case studies from selected countries.

**493R. Special Problems.** (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: geography major or departmental approval.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501R. Topics in Systematic Geography.** (1–3:Arr.:0 ea.)
Detailed investigation of selected geographic topics.

**502R. Seminar in Regional Geography.** (1–3:0:0 ea.)

**510. Advanced Urban Dynamics and Planning.** (3:3:0) W even yr. Prerequisite: Geog 310, 410, or equivalent.
Urban geography and land use planning, emphasizing urban morphology, land use patterns, and spatial analysis; critical evaluation of models and theories.

**512. Issues in Computer Cartography.** (3:2:2) W Prerequisite: Geog 312 or equivalent.
Current techniques for compilation, integration, and display of digital map data..

**513. (Geog-CEEn) Photogrammetry and Remote Sensing.** (3:2:3) Sp Prerequisite: CEEn 113.
Using data obtained from visible range (photographs) and broader ranges (radar, microwaves, infrared, remote, etc.) of the electromagnetic spectrum to solve engineering problems with mapping procedures; photo and electronic data interpretation.

**515. Decision Making in Geographic Information Systems.** (2:2:0) F, W Prerequisite: Geog 412 or equivalent.
Analysis and modeling of geographic information for decision making in natural and urban environments.

**517. Analytical Cartography.** (3:3:0) W Prerequisite: Geog 512, CS 130 or other formal course work in C or C++ programming.
Geocoding, spatial data representation, and map-based transformations.

**518R. Applications of GIS and Remote Sensing.** (2:1:2) W even yr. Prerequisite: Geog 515.
Application of GIS and satellite remote sensing methods to practical problems in urban and physical environments.

**519. Global Positioning Systems.** (2:1:2) F Prerequisite: Geog 211 or instructor's consent.
Earth coordinate systems, map projections, and global positioning system methods.

**580. Geography of the Developing World.** (3:3:0) F odd yr.
Analysis and description of the developing world from a spatial perspective; emphasis on environmental challenges to development.

**599R. Cooperative Education.** (1–3:Arr.:Arr. ea.)
On-the-job experience. No more than 3 hours in cooperative education may count toward major requirements.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Geography Faculty

**Professors**

Grey, Alan H. (1964) BA, Brigham Young U., 1959; MA, PhD, U. of Wisconsin, Madison, 1960, 1963.
Hudman, Lloyd E. (1970) BS, U. of Utah, 1964; MS, PhD, U. of Kansas, 1968, 1970.
Jackson, Richard H (1969) BS, MS, Brigham Young U., 1965, 1966; PhD, Clark U., 1970.

**Assistant Professors**

Davis, James A. (1990) BS, Brigham Young U., 1978; MA, California State U., Fullerton, 1987; PhD, Arizona State U., 1993.
Emmett, Chad F. (1992) BA, Utah State U., 1979, MA, Brigham Young U., 1983; PhD, U. of Chicago, 1991.
Hardin, Perry J. (1988) BS, MA, Brigham Young U., 1982, 1984; PhD, U. of Utah, 1989.
Shumway, J. Matthew (1991) BS, MA, Brigham Young U., 1984, 1987; PhD, Indiana U., Bloomington, 1991.

**Emeriti**

Hinckley, Thomas K. (1972) BA, Brigham Young U., 1958; MA, U. of Pittsburgh, 1960; PhD, U. of Western Ontario, Canada, 1979.
Horiuchi, Russell N. (1961) BA, Brigham Young U., 1953; MA, U. of California, Berkeley, 1958; PhD, U. of Washington, 1975.
Layton, Robert L. (1954) BS, MS, U. of Utah, 1951, 1952; PhD, Syracuse U., 1962.

# Geology

Dana T. Griffen, Chair
673 WIDB, PO Box 24653, (801) 378-3918

College of Physical and Mathematical Sciences Advisement Center
1116 TMCB, PO Box 26539, (801) 378-6270

## Admission to Degree Program

All degree programs in the Department of Geology are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Geology is the study of the earth's origin and development and of the natural processes that have operated upon it and within it from the time the solar system was created. With the development of remote sensing technology and the exploration of the solar system by manned and unmanned spacecraft, geology has expanded to include the moon, other planets and their moons, and small bodies that orbit the sun. A student of geology will study the major features of the earth, the continents, the ocean basins, the structure of mountains, the origin of minerals, the nature of fossils, volcanic eruptions, earthquakes, and glaciers.

## Career Opportunities

Graduates have the opportunity to work both in the great outdoors and in the laboratory, pursuing careers in energy, mineral, and water resources or in environmental evaluation with industry, government, or consulting firms. The substantial preparation in basic sciences and mathematics also leads to a broad spectrum of teaching opportunities.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Earth and Space Science Education |
| BS | Engineering Geology |
| BS | Geology |
| | Emphasis (optional): Environmental Geology |
| BS | Honors in Geology and University Honors |
| Minors | Geology |
| | Geology Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Geology

For more information see the 1996–97 BYU Graduate Catalog.

## BA Earth and Space Science Education (85–89 hours,* including certification hours)

### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following:
   Geol 111, 112, 210, 411.
3. Complete 2 hours of the following:
   Geol 491R (four enrollments).
4. Select three courses from the following:
   Geol 109, 286, 311, 351, 352, 370, 404, 420, 435, 440, 445, 451, 460, 480.
5. Complete the following:
   Chem 105, 106, 107.
   Math 119.
   Phil 423.
6. Select one course from the following:
   Engl 315, 316.
7. Select one of the following options:
   **Either** Phscs 121, 122, 127, 137
   **Or** Phscs 105, 106, 107, 108, 127, 137.

8. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Engineering Geology (86–89 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Geol 112, 210, 311, 351, 352, 370, 410, 436.
3. Complete 2 hours of the following:
   Geol 491R (four enrollments).
4. Select three courses from the following:
   Geol 411, 435, 440, 445, 451, 460, 511, 520, 559, 560.
5. Complete the following:
   CEEn 103, 113, 203, 332, 341, 431.
6. Select one course from the following:
   Geol 111, 330.
7. Complete the following:
   Math 112, 113, 312.
   Phscs 121, 122, 221.
   Engl 316.
8. Select one of the following options:
   **Either** Chem 105, 106, 107
   **Or** Chem 111, 112.

**Recommended Course**

Stat 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Geology (69 hours*)

This basic degree in geology prepares graduates for professional employment in industry, government, or private sectors or for advanced studies in geology, business, or law.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Geol 111, 112, 210, 311, 351, 352, 370, 410, 412.
3. Complete 2 hours of the following:
   Geol 491R (four enrollments).
4. Select three courses from the following:
   Geol 411, 435, 440, 445, 451, 460, 480.
5. Complete the following:
   Math 112, 113.
   Phscs 121, 122, 221.
   Engl 316.
   Chem 105, 106, 107.

**Recommended Courses**

Stat 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Geology: Environmental Geology Emphasis (72–73 hours*)

Increasing concern with environmental degradation and natural geologic hazards has led to a demand for geologists who are both well grounded in the fundamentals of the science of geology and specifically prepared to address environmental problems. This degree prepares students for careers either in the environmental services industry or government or for advanced studies.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Geol 111, 112, 210, 311, 351, 370, 404, 410, 420, 435, 436.
   AgHrt 303.
3. Complete 2 hours of the following:
   Geol 491R (four enrollments).
4. Select two courses from the following:
   Geol 411.
   Hlth 454.
   AgHrt 407.
   CEEn 351.
   Geog 310.
5. Complete the following:
   Math 112, 113.
   Phscs 121, 122.
   Engl 316.
   Chem 105, 106, 107.

**Recommended Course**

RelC 491.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Geology and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Geology (16 hours)

1. Complete the following:
   Geol 111, 112.
2. Select 8 hours from the following:
   Geol 210, 286, 311, 351, 352, 355, 370, 404, 411, 420, 435, 440, 445, 451, 460, 480.

## Minor Geology Teaching (16 hours)

1. Complete the following:
   Geol 111, 112.
2. Select 8 hours from the following:
   Geol 109, 210, 286, 311, 351, 352, 355, 370, 404, 411, 435, 440, 445, 460, 480.

## Geology (Geol)

### Undergraduate Courses

**101. Introduction to Geology.** (3:2:1) F, W, Sp Honors also.
Cultural focus on physical and environmental geology for nonscience majors; rocks and minerals. Field trips.

**103. Life of the Past.** (3:2:1) F, W, Sp
Cultural focus on historical geology for nonscience majors; fossils. Field trips.

**109. Geology of the Planets.** (3:3:0) W
Origins and distinctive histories of the planets in our solar system as revealed by study of their surface features. For nonscience and science majors.

**111. Physical Geology.** (4:3:2) F, W Prerequisite: Math 112 or concurrent registration.
Materials, structure, and surface features of the earth and the geologic processes involved in their development. Field trips and lab studies, use of aerial photos.

**112. Historical Geology.** (4:3:2) W Prerequisite: Geol 111.
Developmental history of the earth, its landforms, and life forms, emphasizing the North American continent. Field trips and lab studies.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**210. Field Studies.** (3:0:9) F Prerequisite: Geol 111, 112.
Procedures in observing, collecting, and recording field data concerning properties of rock units; interpretive concepts; use of Brunton compass, topographic maps, and aerial photos. Contact Geology Department before fall semester for dates of trips.

**286. Prehistoric Vertebrates.** (3:3:0) W alt. yr.
Major groups of prehistoric vertebrates, emphasizing reptiles (especially dinosaurs) and mammals. Scientific and cultural values considered.

**311. Structural Geology.** (3:3:2) F Prerequisite: Geol 111, 210; Phscs 121 or concurrent registration.
Geometric, kinematic, and dynamic analysis of tectonic features. Practical exercises. Use of aerial photos. Field trips.

**330. Geology for Engineers.** (3:2:2) F, W
Geological processes and materials bearing on engineering practices. Field trips.

**351. Mineralogy.** (4:3:2) F Prerequisite: Chem 105 or 111 or concurrent registration.
Principles of crystallography and crystal chemistry. Physical, chemical, and crystallographic properties of minerals.

**352. Petrology.** (3:3:2) W Prerequisite: Geol 210, 351, Chem 105 or 111.
Compositions, fabrics, and field relations of igneous and metamorphic rocks; behavior of rock-forming systems. Field trips.

**355. Gemology.** (3:2:2) F Prerequisite: PhyS 100.
Those minerals used as gems: crystallography, crystal chemistry, physical and optical properties, geologic occurrence, mining methods; evaluation, traditions, and history. Lab: identification and testing.

**370. Stratigraphy and Sedimentation.** (3:3:3) W Prerequisite: Geol 111, 112.
Sediments, sedimentary rocks, and principles of stratigraphy. Field trips.

**399R. Cooperative Education.** (1–9:0:0 ea.) F, W, Sp, Su

**404. Environmental Geology.** (3:2:2) W Prerequisite: Geol 111 or 330.
Theoretical and applied environmental geology; groundwater and soil contamination, waste disposal, mine tailings and drainage; natural and man-made geologic hazards. Field trips.

**410. Geologic Mapping.** (2:0:16) Sp Prerequisite: concurrent registration in 412 or 436 or instructor's consent.
Basic mapping skills required of all majors in geology (including those emphasizing environmental geology) and engineering geology. Intensive two-week field experience. Fee.

**411. Geomorphology.** (3:2:2) W Prerequisite: Geol 111.
Interpretive analysis of landforms and their geologic and environmental significance. Use of aerial photos. Field trips.

**412. Geological Field Methods and Reporting.** (4:0:30) Sp Prerequisite: Geol 311, 352, 370, and concurrent registration in 410 or instructor's consent.
Methods used in geologic fieldwork; geologic literature and preparation of professional geologic reports. Fee.

**420. Environmental Geophysics.** (3:2:2) F Prerequisite: Phscs 121, 122, Geol 111, 112, Math 113.
Applications of various geophysical survey methods to assess shallow geological problems, especially near-surface environmental problems, such as groundwater contaminants, sinkholes, faulting, etc.

**435. Introduction to Groundwater.** (3:3:0) F Prerequisite: Geol 111 or 330; Math 110.
Introduction to the occurrence, movement, and properties of subsurface water; surface and groundwater relationships.

**436. Field Methods in Environmental Geology.** (4:0:30) Sp Prerequisite: Geol 311, 370; AgHrt 303 or CEEn 341; concurrent registration in Geol 410 or instructor's consent.
Methods used to observe, collect, and record field data and samples used in groundwater investigations; soil-gas analysis; landslide and flood-plain mapping; seismic investigations. Fee.

**440. Introductory Geophysics.** (3:2:2) W Prerequisite: Phscs 221.
Physics of the earth, including earthquake seismology. Gravity, seismic, magnetic, electrical, and heat flow properties and methods.

**445. Geochemistry.** (3:3:0) W Prerequisite: Chem 106, 107; or 112; Geol 352.
Applying elementary chemical principles to understand geologic processes and materials.

**451. Optical Mineralogy.** (3:2:2) W Prerequisite: Geol 351.
Fundamentals of optical crystallography and mineral identification techniques.

**460. Economic Geology.** (3:2:2) F Prerequisite: Geol 352.
Principles, genesis, and localization of ore deposits, including laboratory study of ore minerals. Field trips.

**480. Paleontology.** (3:3:2) F Prerequisite: Geol 112.
Distribution, morphology, paleoecology, evolution, and stratigraphic significance of organisms in the geologic record. Field trips.

**491R. Geology Seminar.** (0.5:1:0 ea.) F, W
Seminars on various geologic topics by guest speakers.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su

### 500-Level Graduate Courses (available to advanced undergraduates)

**510. Conducted Field Trips.** (1:Arr.:3) F, W, Sp, Su Prerequisite: any college-level geology course and instructor's consent.
Geology field trips.

**511. Advanced Structural Geology.** (3:2:3) F alt. yr. Prerequisite: Geol 311, 410.
In-depth discussions of a variety of topics in structural geology, emphasizing current literature and problems.

**520. Petroleum Geology.** (3:2:2) F alt. yr. Prerequisite: Geol 311, 370.
Origin, migration, and entrapment of liquid and gaseous hydrocarbons.

**521. Borehole Geophysics and Geology.** (3:3:0) F alt. yr. Prerequisite: Phscs 121, 122, Geol 351, 370.
Applied well log analysis, including conventional and new techniques. Subsurface geology and lithology determined from electrical, acoustical, radioactive, and other logs.

**525. Basin Analysis.** (3:3:0) F alt. yr. Prerequisite: Geol 370.
Tectonic basin development, including extensional, compressional, flexural, and strike-slip processes. Processes of basin-fill and thermal histories emphasizing sequence and seismic stratigraphy.

**545. Isotope Geochemistry.** (3:1:4) W alt. yr. Prerequisite: Geol 352.
Use of stable and radioactive isotope systematics in geochronology and investigation of origins of rocks and waters.

**551. Advanced Mineralogy.** (3:2:2) W alt. yr. Prerequisite: Geol 351, Phscs 121, 122, 221.
Crystallography, structure, and crystal chemistry of major silicate mineral groups.

**556. Applied Geomathematics.** (3:3:0) F alt. yr. Prerequisite: Math 112, 113, Phscs 121, 122.
Applications of algebra, geometry, trigonometry, calculus, matrices, computers, and statistics to the analysis and interpretation of geoscience data.

**559. Applied Geophysics 1.** (3:3:0) F alt. yr. Prerequisite: Geol 311, Phscs 121, 122, 221.
Principles, tools, and methods in gravity, magnetic, and electromagnetic exploration. Includes acquisition, processing, and interpretation of gravity and magnetic data.

**560. Applied Geophysics 2.** (3:3:0) W alt. yr. Prerequisite: Geol 311, 559, Phscs 121, 122, 221.
Principles, tools, and methods used in seismic geophysics, with engineering, environmental, exploration and hydrological applications. Includes acquisition, processing, and interpretation of seismic data.

**565R. Special Topics in Geology.** (2–4:Arr.:Arr. ea.) On dem. Prerequisite: instructor's consent.
The following topics may be offered on demand:
—Geology for Teachers
—X-Ray Crystallography
—Instrumental Methods
—Ore Deposits

**574. Advanced Stratigraphy.** (3:3:0) Alt. yr. Prerequisite: Geol 370 or equivalent. Recommended: Geol 480.
Studying the stratigraphic record through modern methods of correlating stratal packages, emphasizing concepts of sequence and seismic stratigraphy, and utilizing methods of chronostratigraphy, biostratigraphy, lithostratigraphy, and absolute dating. Extended field trip required.

**580. Principles of Paleontology.** (3:3:0) W alt. yr. Prerequisite: Geol 480.
Modern approaches to fossil study applied to areas of evolution, paleoecology, and biostratigraphy.

**586. Vertebrate Paleontology.** (4:3:2) F alt. yr. Prerequisite: instructor's consent.
History of vertebrate fossils. Field trips required. Credit applies in either zoology or geology. Lab studies.

**590R. Short Courses.** (1–3:3:3 ea.) F, W on dem.
Short graduate-level courses offered on a random basis.

**591R. Seminar.** (0.5:1:0 ea.) F, W
Seminars on various geologic topics by guest speakers. Total of 1 credit hour required.

**599R. Cooperative Education.** (1–9:0:0 ea.) F, W, Sp, Su

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Geology Faculty

**Professors**
Baer, James L. (1969) BS, Ohio State U., 1957; MS, PhD, Brigham Young U., 1962, 1968.
Benson, Alvin K. (1986) BS, PhD, Brigham Young U., 1966, 1972.
Best, Myron G. (1965) BS, U. of Utah, 1957; PhD, U. of California, Berkeley, 1961.
Christiansen, Eric H. (1986) BS, Brigham Young U., 1977; ScM, Brown U., 1978; PhD, Arizona State U., 1981.
Griffen, Dana Thomas (1979) BS, U.S. Naval Academy, 1965; MS, PhD, Virginia Polytechnic Inst., 1973, 1975.
Kowallis, Bart J. (1982) BS, Brigham Young U., 1977; MS, PhD, U. of Wisconsin, Madison, 1979, 1981.
Mayo, Alan L. (1987) BS, MS, San Diego State U., 1970, 1972; PhD, U. of Idaho, 1981.
Miller, Wade E. (1971) AA, El Camino Coll., 1957; BS, Brigham Young U., 1960; MS, U. of Arizona, 1963; PhD, U. of California, Berkeley, 1968.

**Associate Professors**
Keith, Jeffrey D. (1990) BS, Brigham Young U., 1977; MS, PhD, U. of Wisconsin, Madison, 1980, 1982.
Ritter, Scott M. (1991) BS, MS, Brigham Young U., 1981, 1983; PhD, U. of Wisconsin, Madison, 1986.

**Assistant Professor**
Morris, Thomas H. (1990) BS, Brigham Young U., 1981; MS, PhD, U. of Wisconsin, Madison, 1985, 1986.

**Associate Scientist**
Tingey, David G. (1990) BS, MS, Brigham Young U., 1983, 1989.

**Emeriti**
Brimhall, Willis H. (1955) BS, Brigham Young U., 1949; MS, U. of Arizona, 1951; BES, Brigham Young U., 1960; PhD, Rice U., 1966.
Bullock, Kenneth C. (1943) BS, MA, Brigham Young U., 1940, 1942; PhD, U. of Wisconsin, Madison, 1949.
Bushman, Jess R. (1955) BA, Brigham Young U., 1949; PhD, Princeton U., 1958.
Hamblin, Wm. Kenneth (1962) BS, MS, Brigham Young U., 1953, 1954; PhD, U. of Michigan, 1958.
Hintze, Lehi F. (1955) BA, U. of Utah, 1941; MA, PhD, Columbia U., 1949, 1951.
Petersen, Morris S. (1966) BS, MS, Brigham Young U., 1955, 1956; PhD, U. of Iowa, 1962.
Phillips, Wm. Revell (1957) BS, MS, PhD, U. of Utah, 1950, 1951, 1954.
Rigby, J. Keith (1953) BS, MS, Brigham Young U., 1948, 1949; PhD, Columbia U., 1952.

# Germanic and Slavic Languages

Alan F. Keele, Chair
4094 JKHB, PO Box 26038, (801) 378-4923

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Germanic and Slavic Languages are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Students of foreign language and literature develop fluency in another language as well as sensitivity to their own language and cultural heritage, to the contributions and diversity of other peoples, and to the advantages of an international perspective.

## Career Opportunities

Experience with the intellectual, artistic, and spiritual expressions of other cultures and of their own culture helps students qualify for advanced study at graduate and professional schools, especially in linguistics, literature, language teaching methodology, library science, humanities, business, law, and medicine. Those who accept employment on completion of the BA degree frequently serve in a government agency, in international business, or in education.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | German |
| BA | Honors in German and University Honors |
| BA | German Teaching |
| BA | Russian |
| BA | Honors in Russian and University Honors |
| BA | Russian Teaching |
| Minor | German |
| | German Teaching |
| | Russian |
| | Russian Teaching |
| | Scandinavian Studies |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | Language Acquisition (German, Russian, or Scandinavian) |
| MA | German Literature |

For more information see the 1996–97 BYU Graduate Catalog.

## Afrikaans Courses (Afrik)

**101, 102. First-Year Afrikaans.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Afrikaans.** (4:5:1) Prerequisite: Afrik 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second-Year Afrikaans.** (4:5:1) Prerequisite: Afrik 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Afrik 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Afrik 211R or equivalent experience.
Advanced conversational skills.

## Bulgarian Courses (Bulgn)

**101, 102. First-Year Bulgarian.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Bulgarian.** (4:5:1) Prerequisite: Bulgn 102 or instructor's consent based on prior experience.
Grammar review and conversation.

**202. Second-Year Bulgarian.** (4:5:1) Prerequisite: Bulgn 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Bulgn 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**330. Cultural History of Bulgaria.** (3:3:1) Prerequisite: Bulgn 201 or foreign residence experience.
Entry course for returned missionaries or others with extensive Bulgarian language experience. Required course for obtaining language credit by examination (Bulgn 101, 102, 201, 211R).

## Czech Courses (Czech)

**101, 102. First-Year Czech.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Czech.** (4:5:1) Prerequisite: Czech 102 or equivalent experience.
Grammar review and conversation.

**202. Second-Year Czech.** (4:5:1) Prerequisite: Czech 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Czech 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**330. Cultural History of Czech Republic.** (3:3:1) Prerequisite: Czech 201 or foreign residence experience.
Entry course for returned missionaries or others with extensive Czech or Slovak language experience. Required course for obtaining language credit by examination (Czech 101, 102, 201, 211R).

## Dutch Courses (Dutch)

**101, 102. First-Year Dutch.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Dutch.** (4:5:1) Prerequisite: Dutch 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second-Year Dutch.** (4:5:1) Prerequisite: Dutch 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Dutch 201 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Dutch 211R or equivalent experience.
Advanced conversational skills.

**340. Introduction to Dutch Literature.** (3:3:0) Prerequisite: reading knowledge of Dutch.
Readings from the best Dutch literature. Introduction to basic literary concepts.

## Estonian Courses (Eston)

**101. First-Year Estonian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**102. First-Year Estonian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**201. Second-Year Estonian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: foreign residence experience.
Credit by examination only.

**330. Cultural History of Estonia.** (3:3:1) Prerequisite: foreign residence experience.
Entry course for returned missionaries from Estonia. Required course for obtaining language credit by examination (Eston 101, 102, 201, 211R).

# German

## BA German (52 hours*)

**General Information**

1. Beginning German courses (101, 102, 201, 202) will be waived for students having comparable German training or experience. Consult department for information about placement examinations.
2. Germ 200R and 300R are designed to help students who require additional skill in speaking, reading, writing, or grammar. These courses are tutorials and are not required for the major.
3. Before proceeding to upper-division courses, students must achieve a prescribed level of language proficiency, which will be tested at the completion of each level. Several language residency programs contribute to this proficiency.

   **Language Residency Programs**

   **Vienna Study Abroad (Germ 211R or 311R).** An opportunity for developing language proficiency as well as for becoming better acquainted with the history and culture of Europe. Prerequisite: Germ 102 or equivalent.

   **Ten-Week German Summer Work Internship (Germ 311R).** An opportunity to live and work in Germany or Switzerland. Housing is provided, usually with families in the host country. Prerequisite: Germ 201 or equivalent.

   **Foreign Language Student Residence (Germ 211R, 311R).** An opportunity to live with other students who have pledged to use only German within the house and with head residents who are native speakers of German. Enrollment in a German class in addition to 211R and 311R is required while living in the house. Prerequisite: Germ 102 or equivalent.

   **German Summer Language Institute (Germ 211R, 311R).** An intensive language program in German during the summer term. Participants live in the Student Foreign Language Residence and develop proficiency through intensive instruction and practical application of the language in daily living situations. Prerequisite: Germ 102 or equivalent.

   **German-Speaking LDS Mission or Other Extended German-Speaking Residency.** Advanced students enroll in Germ 330 and, if desired, complete examinations for Germ 101, 102, 201, and 4 hours of 311R.

   **Study at a German University.** For advice about how to enroll and what financial support is available, contact the department office.
4. Students planning graduate studies in German should begin a second foreign language.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following Level 1 courses:
   Germ 101, 102.
3. Complete the following Level 2 courses:
   Germ 201, 202.
4. Complete 2 hours of one of the following:
   Germ 211R, 311R.
5. Complete the following Level 3 courses:
   Germ 310, 320, 321, 330, 340.
6. Complete the following Level 4 courses:
   Germ 430, 431.
7. Select one course from the following:
   Germ 450, 460.
8. Select two courses from the following:
   Germ 440R, 441R, 442R, 443R.
9. Select one course from the following:
   Germ 497R, 498R.
10. Final German proficiency examination: complete the following during the last semester before graduation (not offered spring or summer):
    Germ 400R (1 hour minimum).

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in German and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA German Teaching (82–83 hours,* including certification hours)

**General Information**

1. Beginning German courses (101, 102, 201, 202) will be waived for students having comparable German training or experience. Consult department for information about placement examinations.
2. Germ 200R and 300R are designed to help students who require additional skill in speaking, reading, writing, or grammar. These courses are tutorials and are not required for the major.
3. Before proceeding to upper-division courses, students must achieve a prescribed level of language proficiency, which will be tested at the completion of each level. Several language residency programs contribute to this proficiency.

   **Language Residency Programs**

   **Vienna Study Abroad (Germ 211R or 311R).** An opportunity for developing language proficiency as well as for becoming better acquainted with the history and culture of Europe. Prerequisite: Germ 102 or equivalent.

   **Ten-Week German Summer Work Internship (Germ 311R).** An opportunity to live and work in Germany or Switzerland. Housing is provided, usually with families in the host country. Prerequisite: Germ 201 or equivalent.

   **Foreign Language Student Residence (Germ 211R, 311R).** An opportunity to live with other students who have pledged to use only German within the house and with head residents who are native speakers of German. Enrollment in a German class in addition to 211R and 311R is required while living in the house. Prerequisite: Germ 102 or equivalent.

   **German Summer Language Institute (Germ 211R, 311R).** An intensive language program in German during the summer term. Participants live in the Student Foreign Language Residence and develop proficiency through intensive instruction and practical application of the language in daily living situations. Prerequisite: Germ 102 or equivalent.

   **German-Speaking LDS Mission or Other Extended German-Speaking Residency.** Advanced students enroll in Germ 330 and, if desired, complete examinations for Germ 101, 102, 201, and 4 hours of 311R.

   **Study at a German University.** For advice about how to enroll and what financial support is available, contact the department office.

**Major Requirements**

1. No D credit is allowed in major courses.
2. A teaching minor is not required for certification. However, it is strongly recommended.
3. Register with the secretary in departmental office.
4. Complete the following Level 1 courses:
   Germ 101, 102.
5. Complete the following Level 2 courses:
   Germ 201, 202.
6. Complete 2 hours of one of the following courses (or equivalent experience):
   Germ 211R, 311R.
7. Complete the following Level 3 courses:
   Germ 310, 320, 321, 330, 340, 377.
8. Complete the following Level 4 courses:
   Germ 430, 431, 460.
9. Select two courses from the following Level 4 courses:
   Germ 440R, 441R, 442R, 443R.
10. Select one course from the following:
    Germ 497R, 498R.
11. Final German proficiency examination: complete the following during the last semester before graduation (not offered spring or summer):
    Germ 400R (1 hour minimum).
12. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor German (18 hours*)

1. Complete the following:
   Germ 310, 320, 330.
2. Select one course from the following:
   Germ 430, 431.
3. Complete 6 additional hours from the following:
   Germ 321, 340, 430, 431, 440R, 441R, 442R, 443R, 450, 460, 497R, 498R.
4. No D credit is allowed in minor courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor German Teaching (22 hours)

1. Complete the following:
   Germ 310, 320, 330, 377, 400R.

   Note: Germ 377 must be taken before student teaching; however, Germ 377 may be waived for students who have had this course in another foreign language.
2. Select one course from the following:
   Germ 430, 431.
3. Select 6 hours from the following:
   Germ 321, 340, 430, 431, 440R, 441R, 442R, 443R, 450, 460, 497R, 498R.
4. Register minor status with the secretary in the Department of Germanic and Slavic Languages.
5. No D credit is allowed in minor courses.

## German (Germ)

### Undergraduate Courses

**101. First-Year German.** (4:5:1)
For those who have had no German. Listening, speaking, reading, writing, grammar, and culture.

**102. First-Year German.** (4:5:1) Prerequisite: C grade or better in Germ 101 or equivalent.
Listening, speaking, reading, writing, grammar, and culture.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
On-the-job experience evaluated by supervisor and posted on student's transcript. Report required. Not applicable to German major or minor.

**200R. Second-Year Proficiency Tutorial.** (1–3:Arr.:Arr. ea.) F, W Prerequisite: Germ 102 or equivalent.
Individualized skill building in listening, speaking, reading, writing, and grammar.

**201. Second-Year German.** (4:5:1) Prerequisite: C grade or better in Germ 102 or equivalent.
Reading, writing, grammar, culture, listening, and speaking.

**202. Second-Year German.** (4:5:1) Prerequisite: C grade or better in Germ 201 or equivalent.
Culminating course for GE Foreign Language requirement emphasizing culture and literature. Continued writing, grammar, listening, and speaking. Prerequisite to all 300- and 400-level courses.

**211R. Intermediate Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Germ 102 or equivalent experience.
Offered only in language residency programs: Foreign Language Student Residence, German Summer Language Institute, German-speaking work internship, German-speaking study abroad.

**300R. Third-Year Proficiency Tutorial.** (1–3:Arr.:Arr. ea.) F, W Prerequisite: Germ 202 or equivalent.
Individualized skill building in listening, speaking, reading, writing, and grammar.

**310. Conversation and Phonetics.** (3:3:0) Prerequisite: Germ 202 or equivalent experience.
Perfecting listening and speaking skills through application of phonetics. Continued reading, writing, grammar, and culture as secondary emphases.

**311R. Advanced Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Germ 211R or equivalent experience.
Offered only in language residency programs: Foreign Language Student Residence, German Summer Language Institute, German-speaking work internship, German-speaking study abroad.

**320. Grammar and Composition 1.** (3:3:0) Independent Study also. Prerequisite: Germ 310 or concurrent registration.
Perfecting grammar, reading, writing, listening and speaking skills using current news items from German-speaking countries as a basis.

**321. Grammar and Composition 2.** (3:3:0) Prerequisite: Germ 320.
Continuation of Germ 320.

**330. Cultural History of German-Speaking Peoples.** (3:3:1) Prerequisite: Germ 202 or equivalent experience.
Entry course for returned missionaries or others with equivalent German language experience. Culture, with listening, speaking, reading, writing, and grammar as secondary emphases. Required course for obtaining language credit by examination (Germ 101, 102, 201, 311R). Prerequisite to all 400-level courses.

**340. Introduction to Literary Analysis.** (3:3:0) Prerequisite: Germ 202 or equivalent experience.
Methods of literary interpretation and their application to German prose, drama, poetry, and film. Continued listening, speaking, writing, grammar, and culture as secondary emphases. Prerequisite to all 400-level courses.

**377. German Language Teaching Procedures.** (3:3:2) Prerequisite: Germ 310, 320, 321, 330; ScEd 276R for students who wish to certify. Required for teaching majors and minors as well as for departmental teaching assistants.

**399R. German Work Internship.** (1–9:Arr.:Arr. ea.)
On-the-job ten-week summer language experience in German-speaking countries. Report required. Not applicable to German major or minor.

**400R. Fourth-Year Proficiency Tutorial.** (0–3:Arr.:Arr. ea.) F, W Prerequisite: senior status.
Individualized skill building in listening, speaking, reading, writing, and grammar. Final proficiency examination administered.

**430. Masterpieces of German Literature 1.** (3:3:0) Prerequisite: Germ 320, 321, 330.
Close reading and analysis of literature from medieval through romantic period.

**431. Masterpieces of German Literature 2.** (3:3:0) Prerequisite: Germ 320, 321, 330.
Close reading and analysis of literature from realism to the present.

**440R. German Literary Periods and Movements.** (3:3:0 ea.) Independent Study also. Prerequisite: Germ 320, 321, 330, 340.
In-depth study of a period or movement such as medieval, Renaissance, baroque, eighteenth century, romanticism, classicism, realism, fin-de-siecle Vienna, naturalism, expressionism, post-war, contemporary.

**441R. Studies in German Literary Genres.** (3:3:0 ea.) Prerequisite: Germ 320, 321, 330, 340.
In-depth study of a genre such as drama, novel, novella, lyric, film.

**442R. Major German Authors.** (3:3:0 ea.) Prerequisite: Germ 320, 321, 330, 340.
In-depth study of works by one major author.

**443R. Studies in Literary Theory.** (3:3:0 ea.) Prerequisite: Germ 320, 321, 330, 340.
In-depth study of primary texts by contemporary literary theorists. May include topics such as Marxist criticism, feminist criticism, reader response, or post-structuralism.

**450. History of the German Language.** (3:3:0) Prerequisite: German 310, 320, 321.

**460. Structure of Modern German.** (3:3:0) Prerequisite: Germ 310, 320, 321.
Grammatical and stylistic study with listening, speaking, reading, writing, and culture as secondary emphases.

**490R. Special Studies in German.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's consent.
Variable credit for individual or group study as approved for special circumstances. Not applicable to German major or minor. Pass/fail only.

**497R. Senior Seminar in German Language.** (3:3:0 ea.) Prerequisite: senior status.
Culminating senior-level course in which acquired knowledge and critical skills are brought to bear on a selected language topic. In-depth senior paper on one aspect of topic.

**498R. Senior Seminar in German Literature.** (3:3:0 ea.) Prerequisite: senior status.
Culminating senior-level course in which acquired knowledge and critical skills are brought to bear on a selected literature topic. In-depth senior paper on one aspect of topic.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.)

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Hungarian Courses (Hung)

**101, 102. First-Year Hungarian.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Hungarian.** (4:5:1) Prerequisite: Hung 102 or instructor's consent based on prior Hungarian experience.
Grammar review and conversation.

**202. Second-Year Hungarian.** (4:5:1) Prerequisite: Hung 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Hung 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**330. Cultural History of Hungary.** (3:3:1) Prerequisite: Hung 201 or foreign residence experience.
For returned missionaries and others with extensive Hungarian language experience. Required course for obtaining language credit by examination (Hung 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement.

## Latvian Courses (Latvi)

**101. First-Year Latvian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**102. First-Year Latvian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**201. Second-Year Latvian.** (4:5:1) Prerequisite: foreign residence experience.
Credit by examination only.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: foreign residence experience.
Credit by examination only.

**330. Cultural History of Latvia.** (3:3:1) Prerequisite: foreign residence experience.
Entry course for returned missionaries from Latvia. Required course for obtaining language credit by examination (Latvi 101, 102, 201, 211R).

## Lithuanian Courses (Lithu)

**101. First-Year Lithuanian.** (4:5:1) Prerequisite: foreign residency experience.
Credit by examination only.

**102. First-Year Lithuanian.** (4:5:1) Prerequisite: foreign residency experience.
Credit by examination only.

**201. Second-Year Lithuanian.** (4:5:1) Prerequisite: foreign residency experience.
Credit by examination only.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: foreign residence experience.
Credit by examination only.

**330. Cultural History of Lithuania.** (3:3:1) Prerequisite: foreign residence experience.
Entry course for returned missionaries from Lithuania. Required course for obtaining language credit by examination (Lithu 101, 102, 201, 211R).

## Polish Courses (Polsh)

**101. First-Year Polish.** (4:5:1)
Basic language skills.

**102. First-Year Polish.** (4:5:1) Prerequisite: Polsh 101.
Continuation of Polsh 101.

**201. Second-Year Polish.** (4:5:1) Prerequisite: Polsh 102 or foreign residence experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second-Year Polish.** (4:5:1) Prerequisite: Polsh 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Polsh 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Polsh 211R or foreign residence experience.
Advanced conversational skills.

**330. Cultural History of Poland.** (3:3:1) Prerequisite: Polsh 201 or foreign residence experience.
For returned missionaries or others with extensive Polish language experience. Required course for obtaining language credit by examination (Polsh 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement.

# Russian

## BA Russian (61–76 hours*)

### General Information

**Important Note for Returned Russian-Speaking Missionaries:** Register for third-year Russian classes. Russ 202 will be waived as a requirement for Russian majors or minors and should not be taken except when remedial work is necessary and permission is obtained from the section leader. Credit for Russ 101, 102, 201, and 211 is available through a test given as part of Russ 330.

### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following preparatory courses:
   Russ 101, 102, 201, 202.
3. Complete the following major courses:
   Russ 311, 312, 321, 322, 330, 340, 411, 412, 441, 442.
4. Select one of the following allied program requirements:
   a. Any second university major. (European Studies and International Relations with a Russian emphasis are recommended majors for students intending to continue in Russian after graduation. When combined with Russian, each of these majors requires approximately 30 hours.)
   b. Complete the following:
      Hist 330, 331.
      Geog 465.
      PISc 347, 383.
   c. Complete a self-proposed program of study (normally to include Hist 330 and 331). This program must be fully described and justified in writing and judged by the Russian faculty to be in your best educational and professional interest.
   d. Teaching certification.
5. Complete Russ 491 and take the Russian proficiency examination (available fall semester only).

It is expected that majors who have not lived for an extended period in Russia, in addition to completing all Russian course work, will live for at least a semester in the Student Foreign Language Residence and complete their fifth-semester Russian course work in Russia during spring and summer terms. This course work includes Russ 240, 311, 312, 321, and 330.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Russian and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA Russian Teaching (92–98 hours,* including certification hours)

### General Information

**Important Note for Returned Russian-Speaking Missionaries:** Register for third-year Russian classes. Russ 202 will be waived as a requirement for Russian majors or minors and should not be taken except when remedial work is necessary and permission is obtained from the section leader. Credit for Russ 101, 102, 201, and 211 is available through a test given as part of Russ 330.

### Major Requirements

1. No D credit is allowed in major courses.
2. Complete an approved teaching minor (approximately 16–21 hours).
3. Register with the secretary in the department office.
4. Complete the following preparatory courses:
   Russ 101, 102, 201, 202.

   **Note:** Classes up to and including Russ 202 may be waived if students demonstrate proficiency in the foreign language.
5. Complete the following major courses:
   Russ 311, 312, 321, 322, 330, 340, 411, 412, 441, 442.
6. Complete a foreign language methods class prior to student teaching:
   Russ 377.
7. Complete Russ 491 and take the Russian proficiency examination (available fall semester only).
8. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

It is expected that majors who have not lived for an extended period in Russia, in addition to completing all Russian course work, will live for at least a semester in the Student Foreign Language Residence and complete their fifth-semester Russian course work in Russia during spring and summer terms. This course work includes Russ 240, 311, 312, 321, and 330.

*Hours include courses that may fulfill GE or university requirements.

## Minor Russian (28 hours*)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Russ 101, 102, 201.
3. Complete the following:
   Russ 202 (see note under information to returned Russian-speaking missionaries), 330.
4. Select one course from the following:
   Russ 311, 312, 411, 412.
5. Select one course from the following (or select two courses if Russ 202 was waived):
   Russ 240, 441, 442.

*Hours include courses that may fulfill GE or university requirements.

## Minor Russian Teaching (31 hours*)

1. No D credit is allowed in minor courses.
2. Register with the secretary in the department office.
3. Complete the following:
   Russ 101, 102, 201.
4. Complete the following:
   Russ 202 (see note under information to returned Russian-speaking missionaries), 240, 330, 377 (must be

taken before student teaching). If 202 was waived, take 441 or 442.

5. Select one course from the following:
   Russ 311, 312, 411, 412.
6. Complete Russ 491 and take the Russian proficiency examination (available fall semester only).

*Hours include courses that may fulfill GE or university requirements.

## Russian (Russ)

### Undergraduate Courses

**100A. Beginning Russian, Slow Paced.** (2:2:1)
Equals first half of Russ 101. For busy working people and others unable to devote as much time as full-time students can.

**100B. Beginning Russian, Slow Paced.** (3:3:1) Prerequisite: Russ 100A.
Equals second half of Russ 101.

**101, 102. First-Year Russian, Parts 1 and 2.** (5:5:1 ea.)

**185, 186. Russian for Reading.** (2:2:0 ea.)
Basic language skills.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
On-the-job experience evaluated by supervisor and posted on student's transcript. Report required. Not applicable to major or minor.

**201. Second-Year Russian, Part 1.** (5:5:1) Prerequisite: Russ 102 or instructor's consent, based on prior Russian language experience.
Grammar review and conversation.

**202. Second-Year Russian, Part 2.** (5:5:1) Prerequisite: Russ 201 or instructor's consent.
Grammar review and discussion in Russian of both expository and literary readings. Culminating course for GE Foreign Language requirement.

**211. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Russ 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills. Offered only as credit by examination upon completion of Russ 330.

**241. Dostoevsky in Translation.** (3:3:0)
Survey of the major writings, including *Crime and Punishment, The Idiot, The Devils,* and *The Brothers Karamazov.*

**242. Tolstoy in Translation.** (3:3:0)
Survey of the major writings, including *War and Peace, Anna Karenina,* "The Death of Ivan Ilich," "A Confession," and other works.

**311, 312. Intermediate Conversation.** (2:2:1 ea.) Prerequisite: Russ 202 or instructor's consent.
Discussion in Russian of Slavic culture.

**321, 322. Third-Year Russian, Parts 1 and 2.** (3:3:0 ea.) Prerequisite: for 321, Russ 202 or equivalent; for 322, Russ 321 or equivalent.

**330. Cultural History of Russia.** (3:3:1) Prerequisite: Russ 201 or foreign residence experience.
Required course for obtaining language credit by examination (Russ 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement.

**340. Russian Literature in Translation.** (3:3:0)
Survey of nineteenth- and twentieth- century Russian literature, including Pushkin, Lermontov, Gogol, Turgenev, Tolstoy, Dostoevsky, Chekhov, Pasternak, and Solzhenitsyn.

**377. Language Teaching Procedures.** (3:3:2) Prerequisite: Russ 201.
Prior or concurrent registration in this course required for student instructors in Russian and other Slavic languages. Meets with Germ 377 and Scand 377.

**399R. Cooperative Education.** (1–9:0:0 ea.) Prerequisite: Russ 202 and department's consent.
On-the-job experience in Russian-related areas. Not applicable to any Russian major or minor. Report required.

**411, 412. Advanced Conversation.** (2:2:1 ea.) Prerequisite: Russ 202 or instructor's consent.
Advanced conversation and listening comprehension.

**441. Survey of Russian Literature in the Nineteenth Century.** (3:3:0) Prerequisite: Russ 202 or equivalent.
Reading, discussing, and writing about Russian literature in Russian.

**442. Survey of Russian Literature in the Twentieth Century.** (3:3:0) Prerequisite: Russ 202 or equivalent.
Reading, discussing, and writing about Russian literature in Russian.

**490R. Special Studies in Russian.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Variable credit for individual or group study as approved for special circumstances.

**491. Senior Russian Proficiency Examination.** (0:0:0) F
All majors are required to register for 491 in the semester they plan to take the Senior Proficiency Examination.

**499R. Honors Thesis** (1–6:Arr.:Arr. ea.)

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Serbo-Croatian Courses (SrbCr)

**101. First-Year Serbo-Croatian.** (4:5:1)
Basic language skills.

**102. First-Year Serbo-Croatian.** (4:5:1) Prerequisite: SrbCr 101.
Continuation of SrbCr 101A,B.

**201. Second-Year Serbo-Croatian.** (4:5:1) Prerequisite: SrbCr 102 or foreign residence experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second-Year Serbo-Croatian.** (4:5:1) Prerequisite: SrbCr 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: SrbCr 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: SrbCr 211R or foreign residence experience.

**330. Cultural History of the Former Yugoslavia.** (3:3:1) Prerequisite: SrbCr 201 or foreign residence experience.
For returned missionaries or others with extensive Serbo-Croatian language experience. Required course for obtaining language credit by examination (SrbCr 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement

## Ukrainian Courses (Ukrai)

**101, 102. First-Year Ukrainian.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Ukrainian.** (4:5:1) Prerequisite: Ukrai 102 or instructor's consent.
Grammar review and conversation.

**202. Second-Year Ukrainian.** (4:5:1) Prerequisite: Ukrai 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Ukrai 201 or foreign residence experience.
Intermediate listening comprehension and speaking skills.

**330. Cultural History of the Ukraine.** (3:3:1) Prerequisite: Ukrai 201 or foreign residence experience.
For returned missionaries or others with extensive Ukrainian language experience. Required course for obtaining language credit by examination (Ukrai 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement.

# *Scandinavian Studies*

## Minor Scandinavian Studies (12 hours*)

1. Select one course from the following:
   Dansh 340.
   Finn 340.
   Norwe 340.
   Swed 340.
   Iclnd 429.
2. Complete the following:
   Scand 430.
3. Select 6 hours from the following:
   Scand 344R, 490R, 529 (may not be taken by students who have had Iclnd 429), 590R.
   Hist 337
   **Or** a literature course in a language different from that taken in item 1 above:
   Dansh 340.
   Finn 340.
   Norwe 340.
   Swed 340.
   Iclnd 429.

**Note:** Students who choose Icelandic or Finnish courses from item 1 above may substitute two semesters of a second Scandinavian language as the equivalent of one of these electives; students who choose Danish, Norwegian, or Swedish courses from item 1 above may substitute two semesters of Finnish.

*Hours include courses that may fulfill GE or university requirements.

## Scandinavian Studies (Scand)

### Undergraduate Courses

**344R. Topics in Scandinavian Studies.** (3:3:0 ea.)
Topic varies. Typical topics might be folklore, culture, music, film, emigration, art and design, political and economic problems, literature in translation, etc.

**+History 337. Scandinavian History.** (3:3:0)

**377. Language Teaching Procedures.** (3:3:2) Prerequisite: Dansh, Finn, Norwe, or Swed 340.
Prior or concurrent registration in this course required for student instructors in Nordic languages. Meets with Germ 377 and Russ 377.

**430. Cultural History of Scandinavia.** (3:3:0)
Scandinavian culture from the Vikings to the present. Works may be read in English translation.

**490R. Seminar in Scandinavian Studies.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Topics vary.

### 500-Level Graduate Courses (available to advanced undergraduates)

**529. Old Norse.** (3:3:0) Recommended: knowledge of a modern Scandinavian language.
Returned missionaries from Iceland or those with equivalent experience should enroll in Iclnd 429. Grammar and exercises. Readings in Old Norse literature.

**590R. Directed Readings in Scandinavian.** (1–3:Arr.:Arr. ea.) Prerequisite: written plan of study approved by both instructor and program coordinator.
Directed individual study. Register by add card only.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Danish Courses (Dansh)

**101, 102. First-Year Danish.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Danish.** (4:5:1) Prerequisite: Dansh 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second Year Danish.** (4:5:1) F, W Prerequisite: Dansh 201.
Culminating course for GE Foreign Language requirement (except for returned missionaries or those with equivalent experience). Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Dansh 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Dansh 211R or equivalent experience.
Advanced conversational skills.

**340. Danish Literature.** (3:3:0) Prerequisite: Dansh 202 or equivalent experience.
Entry course for returned missionaries or others with equivalent Danish language experience. Required course for obtaining language credit by examination (Dansh 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement. Readings in Danish literature; introduction to basic literary concepts.

**399R. Cooperative Education Internship.** (1–9:0:0 ea.) Prerequisite: department's consent.
On-the-job experience in Danish.

## Finnish Courses (Finn)

**101, 102. First-Year Finnish.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Finnish.** (4:5:1) Prerequisite: Finn 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second Year Finnish.** (4:5:1) F, W Prerequisite: Finn 201.
Culminating course for GE Foreign Language requirement (except for returned missionaries or those with equivalent experience). Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Finn 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Finn 211R or equivalent experience.
Advanced conversational skills.

**340. Finnish Literature.** (3:3:0) Prerequisite: Finn 202 or equivalent experience.
Entry course for returned missionaries or others with equivalent Finnish language experience. Required course for obtaining language credit by examination (Finn 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement. Readings in Finnish literature; introduction to basic literary concepts.

**399R. Cooperative Education Internship.** (1–9:0:0 ea.) Prerequisite: department's consent.
On-the-job experience in Finnish.

## Icelandic Courses (Iclnd)

**101, 102. First-Year Icelandic.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Icelandic.** (4:5:1) Prerequisite: Iclnd 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing writing.

**202. Second-Year Icelandic.** (4:5:1) Prerequisite: Iclnd 201.
Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Iclnd 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Iclnd 211R or equivalent experience.
Advanced conversational skills.

**399R. Cooperative Education Internship.** (1–9:0:0 ea.) Prerequisite: department's consent.
On-the-job experience in Icelandic.

**429. Old Icelandic Language and Literature.** (3:3:0) Prerequisite: Iclnd 201 or equivalent experience.
Entry course for returned missionaries or others with equivalent Icelandic language experience. Required course for obtaining language credit by examination (Iclnd 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement. Readings and exercises in Old Icelandic; introduction to Old Icelandic literature and its influence on later Icelandic culture.

## Norwegian Courses (Norwe)

**101, 102. First-Year Norwegian.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Norwegian.** (4:5:1) Prerequisite: Norwe 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second Year Norwegian.** (4:5:1) F, W Prerequisite: Norwe 201.
Culminating course for GE Foreign Language requirement (except for returned missionaries or those with equivalent experience). Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Norwe 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Norwe 211R or equivalent experience.
Advanced conversational skills.

**340. Norwegian Literature.** (3:3:0) Prerequisite: Norwe 202 or equivalent experience.
Entry course for returned missionaries or others with equivalent Norwegian language experience. Culminating course for GE Foreign Language requirement. Required course for obtaining language credit by examination (Norwe 101, 102, 201, 211R). Readings in Norwegian literature; introduction to basic literary concepts.

**399R. Cooperative Education Internship.** (1–9:0:0 ea.) Prerequisite: department's consent.
On-the-job experience in Norwegian.

## Swedish Courses (Swed)

**101, 102. First-Year Swedish.** (4:5:1 ea.)
Basic language skills.

**201. Second-Year Swedish.** (4:5:1) Prerequisite: Swed 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**202. Second Year Swedish.** (4:5:1) F, W Prerequisite: Swed 201.
Culminating course for GE Foreign Language requirement (except for returned missionaries or those with equivalent experience). Emphasis on literature and culture with continued writing, grammar, listening, and speaking.

**211R. Second-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Swed 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (1–5:Arr.:Arr. ea.) Prerequisite: Swed 211R or equivalent experience.
Advanced conversational skills.

**340. Swedish Literature.** (3:3:0) Prerequisite: Swed 202 or equivalent experience.
Entry course for returned missionaries or others with equivalent Swedish language experience. Required course for obtaining language credit by examination (Swed 101, 102, 201, 211R). Culminating course for GE Foreign Language requirement. Readings in Swedish literature: introduction to basic literary concepts.

**399R. Gooperative Education Internship.** (1–9:0:0 ea.) Prerequisite: department's consent.
On-the-job experience in Swedish.

## Germanic and Slavic Languages Faculty

**Professors**

Browning, Gary L. (1974) BA, Brigham Young U., 1965; MA, Syracuse U., 1967; PhD, Harvard U., 1974.
Davis, Garold Neil (1968) BA, MA, Brigham Young U., 1958, 1959; PhD, Johns Hopkins U., 1962.
Jarvis, Donald K. (1970) BA, Brigham Young U., 1964; PhD, Ohio State U., 1970.
Jones, Randall L., Dean, (1978) BA, MA, Brigham Young U., 1963, 1964; MA, PhD, Princeton U., 1966, 1970.
Keele, Alan F. (1971) BA, Brigham Young U., 1967; PhD, Princeton U., 1971.
Kelling, Hans-Wilhelm (1962) BA, Brigham Young U., 1958; MA, PhD, Stanford U., 1960, 1967.
Lyon, James K. (1994) BA, MA, U. of Utah, 1958, 1959; PhD, Harvard U., 1963.
Plummer, Thomas G. (1985) BA, U. of Utah, 1965; MA, PhD, Harvard U., 1966, 1972.
Rogers, Thomas F. (1969) BA, U. of Utah, 1955; MA, Yale U., 1962; PhD, Georgetown U., 1968.

**Associate Professors**

Abbott, Scott (1988) BA, MA, Brigham Young U., 1973, 1976; PhD, Princeton U., 1979.
Baker, Joseph O. (1967) BA, U. of Utah, 1964; PhD, Tulane U., 1968.
Hart, David Kay (1984) BA, Brigham Young U., 1973; MA, PhD, U. of Washington, 1975, 1979.
Stott, Michelle (1987) BA, Weber State Coll., 1978; MA, PhD, U. of Utah, 1981, 1987.

**Assistant Professors**

Evelein, Johannes F. (1993) MA, Rijksuniversiteit Groningen, the Netherlands, 1988; PhD, State U. of New York at Albany, 1993.
Lund, Randall J. (1988) BA, MA, Brigham Young U., 1970, 1973; PhD, U. of Minnesota, 1986.
Nemirovskaya, Julia (1993) MA, PhD, Moscow State U., Russia, 1985, 1991.
Solovyova, Raisa (1992) BLit, Tomsk State U., Russia, 1971; ME, Novosibirsk State U., Russia, 1982.
Straubhaar, Sandra B. (1994) BA, Brigham Young U., 1972; MA, PhD, Stanford U., 1975, 1982.
Whipple, Walter (1993) BA, MM, Brigham Young U., 1968, 1969; DMA, U. of Southern California, 1972; TESL, Brigham Young U., 1989.

**Assistant Lecturer**

Michailova, Victoria V. (1990) Dipl, Hertzen Pedagogical Inst., St. Petersburg, Russia, 1972.

**Instructor**

Kelly, Michael R. (1993) BS, MPA, Brigham Young U., 1978, 1983; MA, ABD, Ohio State U., 1990, 1993.

**Emeriti**

Folsom, Marvin H. (1961) BA, MA, Brigham Young U., 1956, 1957; PhD, Cornell U., 1961.
Gubler, Donworth V. (1949) BA, MA, PhD, Brigham Young U., 1948, 1949, 1971.
Luckau, Paul F. (1964) BA, MA, U. of Utah, 1949, 1955.
Rogers, R. Max (1945) BA, MA, Brigham Young U., 1940, 1942; PhD, Stanford U., 1951.
Smith, Murray F. (1962) BA, U. of Utah, 1956; MA, PhD, U. of Southern California, 1961, 1967.
Speidel, Walter H. (1963) Abitur, Germany, 1940; Diplomdolmetscher und -Übersetzer, Fachhochschule für das Dolmetscherwesen, Stuttgart, Germany, 1948; MA, U. of Utah, 1960; PhD, U. of Kansas, 1963.
Watkins, Arthur R. (1952) BA, MA, Brigham Young U., 1941, 1942; PhD, Stanford U., 1948.

**Associated Scandinavian Faculty**

The following professors from other departments in the College of Humanities have joint appointments in Scandinavian and are members of the department's Scandinavian section:
Melvin J. Luthy (Linguistics)
Royal Skousen (English)
George S. Tate (Humanities, Classics, and Comparative Literature)
William A. Wilson (English)

**Affiliated Scandinavian Faculty**

The following faculty members from departments outside the College of Humanities occasionally teach in or otherwise contribute to the Scandinavian Studies Program:
Gerald M. Haslam (History)
Richard L. Jensen (Joseph Fielding Smith Institute for Church History)
Ralph V. Larson (Continuing Education)
Eric Samuelsen (Theatre and Film)

## Greek

See Humanities, Classics, and Comparative Literature.

# Health Sciences

Keith J. Karren, Chair
213 RB, PO Box 22115, (801) 378-4428

College of Physical Education Advisement Center
205 RB, PO Box 22117, (801) 378-3638

## Admission to Degree Program

All degree programs in the Department of Health Sciences are open enrollment except for the health promotion emphasis. In addition, special limitations apply for teaching majors.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Health Sciences |
| Emphases: | |
| | Community Health Education |
| | School Health Education |
| BS | Health Promotion |
| Minors | Health Education |
| | Driver Safety Education |
| | Gerontology |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Health Sciences

For more information see the 1996–97 BYU Graduate Catalog.

## BS Health Sciences: Community Health Education Emphasis (57–58 hours*)

### The Discipline

Community Health Educators serve many publics in our society. Health promotion and risk reduction are their major aims. They accomplish their objectives by planning and implementing educational programs that increase public understanding and awareness about health and health maintenance. From these programs, people can resolve personal health problems and attain a higher level of physical, social, and mental well-being.

The activity of the Community Health Educator emerges from three objectives: assessment of health needs in a specific population; dissemination of information that will meet these health needs; and motivation of individuals and groups to seek and maintain good health.

### Career Opportunities

There are a variety of career positions available for community health education graduates. Job titles include Health Education Specialist, Health Promotion Specialist, Health Program Evaluator, etc. Main professional duties would be centered on three areas: disease prevention, prolonging life, and health promotion through positive lifestyle patterns.

In a public-sector career, graduates are qualified to work in governmental health agencies on the local, state, federal, and international levels. Public health departments are examples of this area. Private-sector employees would work in health maintenance organizations (HMOs), private hospitals and clinics, and specialized health agencies such as the American Heart Association, the American Cancer Society, the American Diabetes Association, and the American Lung Association, etc. Insurance companies, consultant agencies, and other health provider companies make good use of health educators in preparing health promotion pamphlets, film media, lectures, and other activities promoting positive lifestyle changes for their clients.

The undergraduate major can lead to advanced-degree studies in hospital administration, public health administration, medicine, and other health-related professions.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following courses:
   Hlth 300, 320, 325, 365, 370, 381, 431R, 451 460, 461, 463, 465, 478.
   Zool 261.
   Comms 150, 311.
   CS 103.
3. Complete 1 hour of the following:
   Hlth 449R (two enrollments).
4. Complete 2 hours of the following:
   Hlth 599R.
5. Complete 2 hours of the following:
   IS 286.
6. Select one of the following:
   Stat 221.
   Soc 205.
7. Select one of the following:
   Comms 235.
   Soc 358.
8. Select 6 hours from the following:
   BusM 340.
   Hlth 480.
   Mcbio 221, 222.
   PlSc 311, 330.
   Psych 361, 365.

*Hours include courses that may fulfill GE or university requirements.

## BS Health Sciences: School Health Education Emphasis (81–87 hours,* including certification hours)

**The Discipline**

The health teaching major prepares students to become health educators in secondary schools. Curriculum development, instructional methods, and behavioral modification strategies are among the skills required to facilitate health enhancement in a broad range of concerns such as substance abuse and addictive behaviors, sexuality, emergency care, crisis prevention and intervention (suicide, rape, etc.), chronic disease prevention and control, interpersonal relationships, decision making, and sexually transmitted diseases (e.g., AIDS).

As educators work with youth, they affect their lives, influencing their self-esteem and broadening their abilities to cope with life. All this is occurring at a time when habits are being formed and attitudes are being established that will influence the rest of their lives. The health educator plays an important role in the growth and maturation of a capable and caring human being.

**Career Opportunities**

Graduates seek careers teaching health in the secondary schools in combination with a chosen minor. With an advanced degree, career teaching positions at institutions of higher learning become accessible.

**Major Requirements**

1. No D credit is allowed in major courses.
2. An approved teaching minor must be completed (approximately 16–21 hours).
3. Complete the following:
   Hlth 300, 320, 325, 365, 370, 381, 421, 436, 451, 460, 461, 463, 465.
4. Complete 1 hour of the following:
   Hlth 449R.
5. Select 5 hours from the following:
   Hlth 403R, 431R, 480.
6. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Health Promotion (59.5–60 hours*)

This major is also offered through the Physical Education Department.

**The Discipline**

Health promotion is a departure from the typical U.S. health paradigm in that the focus is on preventing illnesses. Rising health care costs have spurred an interest in keeping people healthy to avoid unnecessary health-related expenses. Health promotion professionals assist individuals and organizations in improving their health-related procedures and policies so that the goals of both are more likely to be fulfilled.

**Career Opportunities**

Health promotion personnel find employment with organizations committed to health enhancement: Business, industry, health clinics and resorts, health maintenance organizations, hospitals, insurance companies, senior citizen groups, and voluntary organizations.

**Major Requirements**

1. Be admitted to the program by the Interdisciplinary Health Promotion Committee.
2. No D credit is allowed in major courses.
3. Complete the following core requirements:
   Hlth 320, 365, 420, 455, 460, 461, 463.
   PE 125, 239, 297, 360, 363, 365, 367, 451, 468.
   Acc 200.
   BusM 300.
   FSN 100.
4. Select 4 hours from the following:
   Hlth 599R.
   PE 399R
5. Select 12–12.5 hours from the following:
   BusM 340.
   Dance 336.
   EPsy 546.
   FSN 410.
   Hlth 370, 403R, 431R, 465, 466.
   IS 286.
   OrgB 320.
   PE 320, 321, 361, 458.

*Hours include courses that may fulfill GE or university requirements.

## Minor Health Education (21 hours)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Hlth 300, 320, 365, 381, 421, 460, 463.
3. Select 5 hours from the following:
   Hlth 325, 370, 420, 431R, 436, 451, 461, 465, 466, 480.

## Minor Driver Safety Education (16 hours)

1. No D credit is allowed in minor courses.
2. Select one course from the following:
   Hlth 121, 320.
3. Complete the following:
   Hlth 325, 444, 445, 446.
4. Select 4 hours from the following:
   Hlth 402R, 420, 460.
   Psych 321.
5. Students majoring in health sciences may not double-count hours in the driver education minor.

## Minor Gerontology (16 hours)

1. No D credit is allowed in minor courses.
2. Course list must receive approval from the director, Steven Heiner, 229-L RB.
3. Cumulative GPA must be at least 2.75.
4. Complete the following:
   Hlth 466, 599R.
   RMYL 490.
5. Select 6 hours from the following:
   Soc 365.
   Hlth 480.
   Geog 501R.
   SocW 367.
6. Select 3 hours from the following:
   Hlth 320, 370, 460.
   Psych 322.
   RMYL 311.
   SocW 366.

## Health/Physical Education (HEPE)

### Undergraduate Courses

**129. Fitness and Lifestyle Management.** (2:2:1)
Why a healthy lifestyle is needed and how to write individualized programs to meet these needs.

## Health Sciences (Hlth)

### Undergraduate Courses

**10. Beginning Driver Education.** (0:0:2)
Satisfies the prerequisite necessary to apply for the Utah driver's license. No driving experience necessary. Fee.

**121. First Aid and Safety Instruction.** (2:2:0) Independent Study also.
Emergency procedures for sudden illness and traumatic injuries; leads to first aid and CPR certifications.

**129. Health and Lifestyle Management.** (1:1:0) Independent Study also.
Self-responsibility approach to health and wellness. Meets university graduation requirement.

**130. Health and Lifestyle Management.** (2:2:0) Independent Study also.
Comprehensive focus on knowledge and skills needed for health and wellness. Meets university graduation requirement.

**201. Drug Education for Intercollegiate Athletes** (1:Arr.:0)
Physiological, sociological, and legal implications of drug use among intercollegiate athletes.

**300. History, Philosophy, and Foundations of Health.** (2:2:0) Independent Study also.
Entry class for all health sciences majors. Principles of the discipline and preparation for professional service. Theoretical models of health, professional and ethical issues, and future trends.

**320. First Aid and Emergency Care.** (3:3:0)
In-depth coverage of first aid procedures for injuries and sudden illness. Leads to first aid and CPR certifications.

**325. Safety Education.** (2:2:0) Independent Study also.
Magnitude of the injury problem; concepts for injury prevention; safety instruction.

**361. School Health for Elementary Teachers.** (2:2:0) Independent Study also.
Health for the elementary teacher, emphasizing his or her role as a health educator; appraisal of typical elementary student health problems.

**365. Modifying Health Behavior.** (2:2:0)
Positive emotional health; attitude and behavior modification. Changing negative health behavior to positive.

**370. Consumer Health.** (2:2:0) Independent Study also.
Current consumer health issues; selecting proper health products, services, and information; sources of consumer health protection.

**381. Health Science Teaching Methods.** (2:2:0)
Teacher and student activities required for conceptual learning in health science.

**402R. Driver and Safety Education Workshop.** (1–7:0:2 ea.) Independent Study also.
Current safety education problems.

**403R. Health Problems Workshop.** (1–5:Arr:Arr.ea.)

**415. Safety Program Management.** (2:2:0)
Designing and implementing occupational safety programs.

**420. Injury Prevention.** (2:2:0)
Injury prevention programs dealing with back injuries, defensive driving, off-the-job injuries.

**421. Secondary Health Education Curriculum.** (2:2:0)
Prerequisite: Hlth 381.
Courses of study in health, with specific program planning and health course curriculum and content review.

**425. Occupational and Industrial Health and Safety.** (3:3:0)
Anticipation, recognition, evaluation, and control of health and safety hazards in the work environment.

**426. Occupational and Industrial Health and Safety Lab.** (1:0:1)
Instrumentation techniques in occupational health and safety.

**430. Environmental Toxicology.** (3:3:0)
Principles of toxicology as they relate to environmental hazards and public health.

**431R. First Aid Instructor Training and Recertification.** (2:2:1 ea.) Prerequisite: current first aid and CPR certification or Hlth 320.
First aid and CPR instructor training leading to several instructor certifications; updating knowledge and skills.

**436. Social Hygiene.** (2:2:0)
Preparing prospective teachers to teach family life education as it relates to health. Sexual maturation, family health problems, parenthood, and other social hygiene factors.

**444. Organization and Administration of Driver and Traffic Safety Education.** (2:2:0) Independent Study also.
Organization, administration, and supervision of high school driver education programs.

**445. Driver and Traffic Safety Education.** (4:2:4) Prerequisite: Hlth 444.
Prepares teachers to instruct classroom and behind-the-wheel phases of driver education.

**446. Driver Simulators and Driving Ranges.** (2:2:1)
Simulator and multiple-car driving range methodology, emphasizing operation and maintenance.

**449R. Seminar in Professionalism, Senior Seminar.** (0.5:1:0 ea.)
Professional and career characteristics of health-related professions.

**451. Community Health.** (2:2:0) Independent Study also.
Individual, school, and community involvement in preventing disease, improving human efficiency, and prolonging life. Emphasis is placed on needs assessment and community resources for health promotion.

**452. Environmental Health Evaluation and Management 1.** (2:2:0)
Comprehensive study of contemporary environmental health practices centered on food sanitation standards, insect and rodent control, housing, and institutional environments.

**453. Environmental Health Evaluation and Management 2.** (2:2:0)
Water procurement and quality standards, liquid waste treatment and disposal, water pollution control, and air quality management.

**455. Health Promotion.** (3:3:0)
Planning for the effective designing, marketing, implementing, and administering of health promotion programs.

**460. Substance Use and Addictive Behavior.** (2:2:0) Independent Study also.
Physiological, psychological, sociological, and legal implications of drug use and addictive behaviors, emphasizing nature, cause, treatment, and prevention.

**461. Health of the Body Systems.** (3:3:0) Prerequisite: Zool 261.
Advanced course in health problems dealing with the major factors in health and disease as they affect the several body systems.

**463. Health Protection and Management.** (3:3:0)
Management approach to cause and nature of health deterioration; emphasizes health enhancement, disease prevention, and stress management.

**465. Health Crisis Intervention.** (2:2:0) Independent Study also.
Intervention techniques applied to health crises such as death and dying, suicide, grief and mourning, euthanasia, child abuse, abortion, and sexual assault.

**466. Health and the Aging Process.** (2:2:1) Independent Study also.
Theories of aging as a normal process, as a pathological process; health promotion and extension of life.

**475. Health Assessment and Evaluation.** (2:2:0)
Utilizing health assessment instruments, equipment, and software for managing health promotion programs.

**478. Epidemiology for Health.** (2:2:0) Prerequisite: Mcbio 221 or instructor's consent.
Applying analytical tools to study acute and chronic disease to facilitate investigation of and control of epidemics.

**480. International Health.** (2:2:0)
Health values, beliefs, and practices of other cultures, emphasizing how these beliefs and practices affect health and well-being.

### 500-Level Graduate Course (available to advanced undergraduates)

**599R. Cooperative Education.** (1–9:Arr.:Arr. ea.) Prerequisite: completion of a major in health sciences or graduate student status in health sciences.
On-the-job experience.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

### Health Sciences Faculty

**Professors**
Hafen, Brent Q. (1969) BS, MS, U. of Utah, 1963, 1965; PhD, Southern Illinois U., 1969.
Heiner, Steven W. (1969) BS, MS, EdD, U. of Utah, 1955, 1962, 1969.
Karren, Keith J. (1971) BS, MS, Brigham Young U., 1969, 1970; PhD, Oregon State U., 1975.
Rhodes, Ronald L. (1962) BS, Elmhurst Coll., 1957; MS, Brigham Young U., 1962; PhD, Oregon State U., 1971.
Rollins, L. McKay (1962) BS, MS, Brigham Young U., 1961, 1962; PhD, U. of Utah, 1971.
Thygerson, Alton L. (1967) BS, MHEd, EdD, Brigham Young U., 1962, 1965, 1969.

**Associate Professors**
Hirschi, Willard M. (1964) BS, Brigham Young U., 1956; MA, Arizona State U., 1960.
Hurley, D. Richard (1971) BS, MS, Brigham Young U., 1963, 1964; PhD, Southern Illinois U., 1971.
James, Sherald W. (1962) BS, MS, Brigham Young U., 1956, 1962.
Lindsay, Gordon B. (1994) BS, Brigham Young U., 1978; MS, U. of Utah, 1980; PhD, Ohio State U., 1984.

**Assistant Professors**
Coon, Paul E. (1972) BS, MS, Brigham Young U., 1968, 1972.
Petersen, Ray A. (1969) BS, MHEd, Brigham Young U., 1960, 1965.
Salazar, Richard D. (1963) BS, MS, Brigham Young U., 1958, 1962; PhD, Southern Illinois U., Carbondale, 1972.

**Emeriti**
Burgener, O. Robert (1964) BS, Utah State U., 1953; MPH, U. of California, Berkeley, 1964; PhD, U. of Utah, 1972.
Robison, Clarence F. (1948) BS, Brigham Young U., 1949; MS, U. of Michigan, 1954.
Tuckett, Glen C. (1959) BS, U. of Utah, 1953; MS, EdD, Brigham Young U., 1962, 1975.

## Hebrew

See Asian and Near Eastern Languages.

## Hindi

See Asian and Near Eastern Languages.

# History

Kendall W. Brown, Chair
323 KMB, PO Box, 24446, (801) 378-4335

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of History are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

History stands at the heart of a liberal arts bridge between the humanities and social sciences. Historical understanding is thus basic to the life of an educated human being. As such, it is the ideal major for the student who wants the broad educational background for entrance into professions such as law, government service, or business, or who wants a liberal arts education. History can also be valuable training for someone who plans to teach.

## Career Opportunities

In recognition of the broad range of uses to which historical education can be put, the field of public history has emerged in recent years. Today, people whom others would consider bankers, lawyers, corporate executives, or public servants view themselves as historians—public historians. They are the people with analytical skills provided by their historical education who work outside the university but who consider themselves historians by virtue of the value of the training they have received. A significant percentage of the jobs listed by firms and agencies with BYU's Employment Office specify no major. Many of these will be taken by public historians anxious to serve their employers with the valuable skills learned in their history major.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Family History–Genealogy |
| BA | History |
| BA | History Teaching |
| BA | Honors in History and University Honors |
| Minors | History |
| | History Teaching |
| | Native American Studies |
| Cert | Family History–Genealogy |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | History |
| PhD | History |

For more information see the 1996–97 BYU Graduate Catalog.

## BA Family History–Genealogy (42 hours*)

1. No D credit is allowed in major courses.
2. No more than 18 hours of lower-division credit in history may be applied toward the major.
3. Select one course from the following:
   Hist 120, 121.
4. Complete the following:
   Hist 200, 365, 397R, 400R, 480, 485, 490.
5. Complete 6 hours of the following:
   Hist 493R, 496R.
6. Select one course from the following:
   Hist 326, 327, 351, 357, 369, 382, 384, 398, 401, 402.
7. Select one course from the following:
   Hist 322, 329, 330, 332, 333, 334, 335, 336, 337, 352, 353, 356, 360, 367, 370.
8. Select two courses from the following:
   Hist 406R, 407R, 408R, 409R, 410R, 411R.

**Recommended Courses**

Hist 201, 202.
RelC 261.
Select 2 hours from the following:
RelC 262, 263, 264, 265, 266, 267, 268.

*Hours include courses that may fulfill GE or university requirements.

## Certificate Family History–Genealogy (17–18 hours)

The certificate will state the student's geographic areas of concentration.

1. Complete the following:
   Hist 365.
2. Complete the following:
   Hist 400R.
3. Select 9 hours from the following:
   Hist 406R, 407R, 408R, 409R, 410R, 411R.
4. Select 2–3 hours from the following:
   Hist 480, 496R.

**Note:** The certificate program can help prepare for certification or accreditation but should not be confused with these two separate, private methods of qualifying professional genealogists.

## BA History (39 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. No more than 18 hours of lower-division credit in history may be applied toward the major.
3. Complete the following:
   Hist 120, 121, 200, 201, 202, 485, 490.
4. After consulting with an advisor, complete 18 elective hours in history. Students may study various areas of history, but they must not present all their preparation in a single area. At least one class must be chosen from *each* of three of the following areas: Asia or the Near East, Europe, Latin America, or the United States.

**Recommended Courses**

1. Supporting courses:
   Phil 105.
   Econ 110.
   Hist 328.
2. GE courses:
   a. Arts and Letters:
      ClCv 110.
      Engl 230.
      Hum 101.
      Hum 240.
      Phil 205.
      VAHis 111, 112.
   b. Natural Sciences:
      Botny 250.
      Geog 101.
      Phscs 314.
      Zool 150.

*Hours include courses that may fulfill GE or university requirements.

## BA History Teaching (63–64 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. No more than 18 hours of lower-division credit in history may be applied toward the major.
3. A teaching minor is not required for certification. However, it is strongly recommended.
4. Complete the following:
   Hist 120, 121, 200, 201, 202, 366, 477, 485, 490.
5. Complete 9 elective history hours (at least one class must be chosen from two of the three following areas: Asia or the Near East, Europe, or Latin America.
6. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in History and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor History (21 hours*)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Hist 120, 121, 200, 201, 202.
3. Select 6 hours from upper-division history courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor History Teaching (21 hours*)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Hist 120, 121, 200, 201, 202, 366.
3. Select 3 hours from upper-division history courses.

*Hours include courses that may fulfill GE or university requirements.

## History (Hist)

### Undergraduate Courses

**120. The United States Through 1877.** (3:3:0) Independent Study also.

Discovery, colonization, American Revolution, establishment of the Constitution, foreign affairs, westward expansion, sectionalism, Civil War, and reconstruction.

**121. The United States Since 1877.** (3:3:0) Independent Study also.

Industrialization, immigration, urbanization, political and social movements, and foreign policy.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**200. The Historian's Craft.** (3:3:0)
History within the broader framework of liberal education; nature of history; questions historians ask; skills and resources needed to study, understand, and write history.

**201. World Civilization to 1500.** (3:3:0) Honors and Independent Study also.
World civilization from Greek antiquity to Renaissance; explores fundamental questions in the human experience, examines formative events in history, and seeks to teach value of important texts.

**202. World Civilization from 1500.** (3:3:0) Honors and Independent Study also. Prerequisite: Hist 201.
World civilization from Renaissance to present; explores fundamental questions in the human experience, examines formative events in history, and seeks to teach value of important texts.

**207. Federal Indian Policy.** (3:3:0)
History and development of interrelationship of the federal government and the Native American in the United States.

**223. Introduction to Indian Education.** (3:3:0) Prerequisite: NAS 101.
Learning difficulties of language and culture and awareness of government title programs.

**250. Popular Culture in America.** (3:3:0)
Life and culture in America; the American character and its relationship to popular cultural themes.

**300. Ancient Near East.** (3:3:0)
Ancient Egypt, Mesopotamia, Palestine, and Persia from ca. 3500 B.C. to A.D. 600.

**301. The Crusades.** (3:3:0)
Age of Holy Wars in the eastern Mediterranean and Near East, 1050–1300. Focus on both Europe and Near East.

**302. Medieval and Modern Near East.** (3:3:0)
Rise and spread of Islam during the period of the Caliphate; Ottoman Empire; Western imperialism; rise of national states.

**303. Jewish History: A.D. 70 to the Present.** (3:3:0)
Jewish diaspora, Jewish life in Moslem and Christian countries; Jewish religious movements; development of Zionism; Jewish communities in modern Israel and the United States.

**304. (Hist-ClCv) Greek History.** (3:3:0)
Political, economic, social, and intellectual history of Greece from Mycenaean times to the Hellenistic period.

**305. Mediterranean History.** (3:3:0)
Political, commercial, and cultural history of the lands bordering the Mediterranean and their common ties to the sea, emphasizing the medieval period as the precursor to Atlantic expansion.

**307. (Hist-ClCv) Roman History.** (3:3:0)
Political, economic, social, and intellectual history of Rome from the foundation of the city to Constantine.

**308. History of African Civilizations: Traditional Society and Culture to 1800.** (3:3:0)
Society, culture, and kingdoms of Black Africa before European rule; art, architecture, kings and courts, status of women.

**309. Modern African History: 1800 to the Present.** (3:3:0)
Rise of traditional kingdoms, impact of Christianity and Islam, European partition of Africa, colonial rule, nationalist movement, problems of independence, foreign policy, and intellectual life.

**310. The Early Middle Ages.** (3:3:0)
Decline of Rome and the early formative stages of early medieval civilization; analysis of political, economic, and social changes from A.D. 285 to 950.

**311. The Late Middle Ages.** (3:3:0)
Europe from 950 to 1350; maturation of medieval civilization; failure of German, success of French leadership; economic, religious, cultural, intellectual trends.

**312. The Renaissance: Age of Transition.** (3:3:0)
Literary and artistic reawakening of Italy and Europe; commercial revolution; rise of national monarchies.

**313. The Reformation: Age of Turmoil.** (3:3:0)
Sixteenth-century religious upheaval; ideological, cultural, political, and socioeconomic struggles to mid–seventeenth century.

**314. (Hist-Phscs 314-Phil 423) History and Philosophy of Science.** (3:3:0) Prerequisite: PhyS 100 or instructor's consent.
Scientific explanation, concepts, and models. Philosophical assumptions and criteria for theory selection, as exemplified by historical development of basic ideas in science.

**315. The Overseas Expansion of Europe.** (3:3:0)
European expansion into Asia, Africa, and America; first colonial empires and their worldwide social, economic, and cultural impact.

**316. Foundations of Modern Diplomacy.** (3:3:0)
Emergence of national states and development of international diplomacy during its formative age from the Renaissance to the fall of Napoleon.

**318. European Jews and the Holocaust.** (3:3:0)
Attempted genocide of European Jews by Hitler's Third Reich; motives, methods, and implications.

**319. Ideas and Man in the Modern World.** (3:3:0)
Interrelationship of influential ideas and historical events from the end of the eighteenth century to the present.

**320. The Age of Enlightenment.** (3:3:0)
Developments in Europe from 1650 to the French Revolution, emphasizing political thought, science, and philosophy in the Enlightenment.

**322. Nineteenth-Century Europe.** (3:3:0) Independent Study also.
Political, economic, social, and intellectual history of Europe from 1815 to 1914.

**323. Europe in the Twentieth Century.** (3:3:0)
International affairs and political and economic history of major European countries (including Russia) from World War I to the present.

**324. Communist China.** (3:3:0)
Chinese Communist development from the 1920s to the present, emphasizing contemporary domestic affairs and foreign relations.

**326. The Family in Europe.** (3:3:0) Independent Study also.
Nature and development of marriage and family life and structure from the ancient to modern era.

**327. Society in Europe.** (3:3:0)
Common life in Europe from 1500 to the present: family problems, social customs, marriage, superstition, death, diet, work, hardships, migration, and childhood.

**328. Quantitative History.** (3:3:0)
Introduction to theory and methods of quantitative history useful for teaching, research, public history, law, business. Workshops include procedures and computer analysis.

**329. Austrian Empire.** (3:3:0)
Historical survey (1526–1918) of area ruled by Hapsburg dynasty comprising lands and people of East-Central Europe.

**330. Tsarist Russia.** (3:3:0)
From early beginnings to the Russian Revolution.

**331. Soviet and Post-Soviet Russia.** (3:3:0) Independent Study also.
Modern Russia, emphasizing rise of communism and development of the USSR and the new commonwealth.

**332. France.** (3:3:0)
French history from Roman times to the present, emphasizing the French Revolution, Napoleon, and subsequent developments.

**333. Modern Germany.** (3:3:0)
Political, military, economic, and cultural development of Germany during the nineteenth and twentieth centuries.

**334. Spain.** (3:3:0)
Political, social, and economic factors in Spanish history from Roman times to present. Emphasis on Reconquest, Golden Age, and Civil War.

**335. English History to 1689.** (3:3:0) Independent Study also.
Political, social, and cultural developments from prehistoric times to the Glorious Revolution. Medieval, Tudor, and Stuart periods.

**336. English History Since 1689.** (3:3:0)
Emergence of Britain as a great colonial and industrial power, as well as more recent decline of Britain's influence. Emphasis also on cultural developments.

**337. Scandinavian History.** (3:3:0)
Political, social, religious, cultural, and economic factors in Denmark, Finland, Iceland, Norway, and Sweden from Viking era to present highly developed society.

**338. History on Film.** (3:2:Arr.) Prerequisite: Hist 201 or 202, preferably both. Recommended: upper-level courses in medieval and early modern European history.
Effectiveness of film as a medium of history; its strengths and weaknesses compared to traditional approaches. Special attention to works on European history.

**340. Premodern Asia.** (3:3:0)
Beginning of the traditional civilizations of China, India, and Japan, and their development until the coming of the West.

**341. Modern Asia.** (3:3:0)
Impact of the West on Asian societies; change of tradition, imperialism, nationalism, and communism in China, Japan, and India.

**342. Korea.** (3:3:0)
Political, religious, and cultural development from antiquity to the present.

**343. Chinese Civilization.** (3:3:0)
Development of China to 1500; social and cultural factors.

**344. Modern China Since 1500.** (3:3:0)
Developments since coming of the West; reform, movements, rebellion, rise of nationalism, and change of traditional institutions.

**345. Premodern Japan.** (3:3:0)
Development of Japan to 1868; social, religious, and cultural aspects.

**346. Modern Japan.** (3:3:0)
Development following Japan's opening in 1853; process and implications of modernization and expansion.

**347. (Hist-NES) Arab and Islamic Civilization.** (2:2:1)
Social science/humanities core course covering Arab and Islamic civilization; historical evolution of Middle East to present. Overview of modern Palestinian society. Offered at Jerusalem Center for Near Eastern Studies; elective credit for major and minor in Near Eastern Studies. Does not receive GE credit.

**348R. Topics in Modern Near Eastern History.** (3:3:0 ea.)
Closer examination of the history of appropriate delimited topic than possible in general survey course. Topics may include modern Islamic movements, modern Egypt, modern North Africa.

**349. (Hist-NES) Jewish Civilization.** (2:2:1)
Social science/humanities core course; broad introduction to Jewish self-understanding and history, focusing on relationships among people, faith, and land. Offered at Jerusalem Center for Near Eastern Studies. Does not receive GE credit.

**350. History of Asian Religions and Thought.** (3:3:0)
Development of Asia's religions and modes of thought and their influence on Asian and world history.

**351. Conquest and Colonization of Latin America.** (3:3:0)
Pre-Columbian civilizations, Iberian exploration and conquest of the New World, and colonial development of Hispanic and Portuguese America from 1492 to 1823.

**352. Modern Latin America.** (3:3:0)
National period (1810 to present): independence, institutional development, culture, and inter-American relations.

**353. Mexico and the Caribbean.** (3:3:0)
Social and economic trends, with emphasis on colonialism, Mexican Revolution, and Castro movement.

**356. Brazil.** (3:3:0)
From 1500 to present, focusing on national period.

**357. The Indian in Latin American History.** (3:3:0)
History of Latin American Indians from preconquest days to the present; achievements, contributions, and problems.

**359. Inter-American Relations.** (3:3:0)
Decline of Europe's American empires, legacies bequeathed to the new republics by their European heritage, and how those legacies have affected relations among the various American republics.

**360. The Borderlands: The Spanish Frontier in North America.** (3:3:0)
Spanish exploration, occupation, and institutions of northern Mexico, the American Southwest, and Florida, 1521–1821; Mexican period to 1848.

**361. The American West in the Twentieth Century.** (3:3:0)
Pivotal developments in twentieth-century West, including urbanization, Sun Belt migration, political protest, labor history, Native American history, immigration, water policy, tourism, military-industrial complex, Hollywood.

**362. The American West to the Mexican War.** (3:3:0)
Early colonization and westward movement east of the Mississippi.

**363. The American West Since the Gold Rush.** (3:3:0)
Fur trade and colonization in the trans-Mississippi West.

**364. American Environmental History.** (3:3:0)
American people's experience in responding to the environment; ideas, population, technology, urbanization, water, logging, industry, air, hunting, fishing, irrigation, etc.

**365. The Family and the Law in American History.** (3:3:0)
The interaction of families with law and government as illustrated in original American sources; individual family histories reconstructed in the broader perspective of history.

**366. Utah.** (3:3:0) Independent Study also.
Contributions of Native Americans, explorers, mountain men, Mormons, and gentiles to nineteenth century. Politics, economics, and social and cultural development in twentieth century.

**367. History of the South.** (3:3:0)
Political, economic, and cultural history of the southern states from colonial times to the present.

**368. Mormonism in American History.** (3:3:0)
Social, economic, political, intellectual, and religious environment in which Mormonism flourished; contributions of Mormon men and women to American culture and history.

**369. The Indian in American History.** (3:3:0)
Developments in the history of leading Indian tribes; relations with the United States government.

**370. Colonial America.** (3:3:0)
Establishment, growth, and development of the American colonies to 1763.

**371. The Machine in America.** (3:3:0)
Benefits and liabilities of technological complexity.

**372. New American Nation.** (3:3:0)
Causes and consequences of the American Revolution, the confederation era, and the framing of the Constitution.

**373. History of Religion in the United States.** (3:3:0)
Religious developments in America from colonial times to the present.

**374. U.S. Diplomatic History.** (3:3:0)
American diplomacy; trends and critical decisions of the twentieth century.

**376. Jacksonian America, 1819–1848.** (3:3:0)
Development of nationalism, sectionalism, and new political parties. Slavery, Indian policy, states' rights, expansion, and other economic and social forces that in time divided the Union.

**377. Civil War.** (3:3:0)
Impact of the Civil War and Reconstruction on American society and military. Emphasis on civilian control of the military, leadership, effects of technology, social change, key battles, nationalism, and "Lost Cause."

**379. United States Since 1945.** (3:3:0)
Movements and ideas that shaped society, politics, economy, and diplomacy of the United States since the Second World War.

**380. San Francisco.** (3:3:0)
San Francisco as a microcosm of the American experience; art, architecture, environmentalism, politics, and ethnic diversity.

**382. American Social History.** (3:3:0)
Methods and issues of social history; family history, demography, elites, women, childhood and youth, immigrants, race, religion, urbanization, and social class.

**384. United States Women's History.** (3:3:0)
Survey course of women's experience in American culture and society from the Puritans to the present.

**385. American Constitutional History to 1865.** (3:3:0)
Survey course of women's experience in American culture and society from the Puritans to the present.

**386. American Constitutional History Since 1865.** (3:3:0)
Constitutional development: Reconstruction, due process, liberal nationalism, New Deal, war and the Constitution, and civil liberties.

**387. Philosophies of History.** (3:3:0)
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians.

**388. Life and Thought in America.** (3:3:0)
Movements in social and political thought; major leaders and their times from 1607 to the present.

**390R. Special Topics in History.** (1–3:3:0 ea.) Independent Study also.
Presented by visiting or regular faculty. Varied topics include oral history, demographics, psychohistory, Christianity in history, etc.

**392R. Special Topics in Latin American History.** (3:3:0 ea.)

**393R. Special Topics in Family History Research.** (1–3:Arr.:0 ea.)

**394R. Special Topics in European History.** (3:3:0 ea.)

**395R. Special Topics in Asian History.** (3:3:0 ea.)
Varied topics include South Asia, Christian missions in Asia, and Asiatic Russia.

**396R. Special Topics in American History.** (3:3:0 ea.)

**397R. Writing Family Histories.** (3:3:0 ea.) Independent Study also.
Selecting themes and sources, and determining issues to be dealt with.

**398. American Family History.** (3:3:0)
History of American families from colonial period to the present.

**399R. Cooperative Education.** (1–9:0:0 ea.)
On-the-job experience for students working on internships, work study programs, and other appropriate, historically oriented activities (maximum of 6 hours toward major).

**400R. Paleography.** (3:3:0 ea.) Independent Study also.
Interpretation of handwriting in vernacular and Latin scripts from North America, Great Britain, and other European countries—sixteenth through eighteenth centuries.

**401. American Community History.** (3:3:0)
Sources and special background needed for writing history of a region, country, or town.

**402. American Migration History.** (3:3:0)
Patterns of settlement by ethnic groups in the westward movement.

**403R. European Community History.** (3:3:0 ea.)
Sources and methodology for writing history of a town or region; particular aspects of local history.

**405. Family History and the Personal Computer.** (3:3:0)
Genealogical software and the personal computer; use in applied research and family history writing.

**406R. North American Family History.** (3:3:0 ea.)
In-depth examination of sources and problem solving in North America.
—Northeastern States and Canada
—Midwestern States and Canada
—Southern States
—Native American

**407R. British Family History.** (3:3:0 ea.)
In-depth examination of sources and problem solving in Britain.
—England and Wales Since 1700
—England and Wales Before 1700
—Scotland and Ireland

**408R. Scandinavian Family History.** (3:3:0 ea.)
In-depth examination of sources and problem solving in Scandinavia.
—Denmark
—Norway and Iceland
—Sweden and Finland

**409R. Germanic/Slavic Family History.** (3:3:0 ea.)
In-depth examination of sources and problem solving in various Germanic- and Slavic-speaking countries.

**410R. Southern European Family History.** (3:3:0)
Records, geo-historical background, paleography, and methods for reconstruction of individual families; development of demographic and family history studies in Portugal, Spain, France, and Italy.

**411R. Hispanic Family History.** (3:3:0)
Records, geo-historical background, paleography, and methods for reconstruction of individual families; development of demographic and family history studies in Latin America and Spanish United States.

**422. Oral History Interviewing and Processing.** (3:3:0)
Independent Study also.
Oral methods of research and writing history; focus on family histories. Techniques of interviewing; transcribing and processing interviews. Creating historical documents.

**430R. (Hist-Clscs) Topics in Greek and Roman History.** (3:3:0 ea.) Prerequisite: Greek 201 (Greek topics) or Latin 201 (Roman topics).
Topics vary (e.g., rise of the Greek city-state, Greek political thought, classical historiography, Rome and the Etruscans, imperial Rome).

**+Greek 430. Herodotus. (3:3:0)**

**+Latin 430. Livy. (3:3:0)**

**440. Great Cities of the Western World.** (3:3:0)
Society, politics, culture, and art of selected cities (Paris, Vienna, Florence, Rome, New York, etc.) that have influenced the course of Western civilization.

**454. Military History of the United States to 1903.** (3:3:0)
Recommended: Hist 120, 121.
Funding and growth of the military establishment, exercise of the military art, personal experience of war, and military policies treated in connection with relevant political, social, technological, and economic factors.

**455. Military History of the United States Since 1903.** (3:3:0)
Recommended: Hist 120, 121, 454.
Continued growth of the military establishment during the twentieth-century, exercise of the military art, personal experience of war, and military policies treated in connection with relevant political, social, technological, and economic factors.

**457. American Indian Military Campaigns.** (3:3:0)
Military campaigns of the Indians and the United States government on the western frontier.

**477. Methods of Teaching.** (3:3:0) For history teaching majors. Prerequisite: concurrent registration in ScEd 476R.
Effective methods of teaching history in secondary schools; historical content taught at the secondary school level.

**480. Seminar on Professional Family History Research.** (3:3:0)
Independent Study also.
Practicumin professional client research, report-writing, family history publishing, bookkeeping procedures, and running a family history business.

**485. Junior Tutorial in History.** (3:3:0) Prerequisite: Hist 200.
Reading, discussing, and writing about selected historical issues.

**489R. Travel Studies.** (1–6:Arr.:Arr. ea.)

**490. Historical Research and Writing.** (3:3:0) Prerequisite: Hist 200, 485.
Research seminar; critical, analytical, and writing skills in preparation of a historical essay. Required of all history majors.

**493R. Preparation for Accreditation in Family History.** (3:3:0 ea.)
Directed research and instruction for completing the application/test for professional accreditation or certification in family history.

**494M. Global Perspectives in History.** (3:3:0 )
Senior-level Honors course; historical global issues from perspective of specific time frames and geographic settings.

**495R. Directed Research.** (3:0:0 ea.) Prerequisite: instructor's prior consent.
Student research directed by faculty member on topic of mutual interest. Research assistants must do additional work for credit.

**496R. Internship in Family History.** (1–5:0:0 ea.)
Work with Department of History on various projects, under supervision of professional.

**497R. Honors Readings.** (1–3:0:Arr. ea.)

**498R. Directed Readings.** (1–3:3:Arr. ea.) Independent Study also.

**499R. Honor's Thesis.** (1–6:0:0 ea.)

### 500-Level Graduate Courses (available to advanced undergraduates)

**500R. Special Studies in History.** (1–3:3:0 ea.)
Directed by visiting or resident faculty. Check with department secretary for current topics and instructor.

**561. Sources and Problems in Early America.** (3:3:0)
Through the seventeenth and eighteenth centuries. Required of American and European history graduate students.

**562. Sources and Problems in Nineteenth-Century America.** (3:3:0)
Through the nineteenth century. Required of American and European history graduate students.

**563. Sources and Problems in Twentieth-Century America.** (3:3:0)
Through the twentieth century. Required of American and European history graduate students.

**587. Philosophies of History.** (3:3:0)
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians.

**590R. Special Topics.** (3:3:0 ea.)
Western American, religious, family, Asian, Latin American, and Near Eastern history.

**598R. Special Readings in History.** (1–2:0:Arr. ea.)

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## *Native American Studies*

Fred R. Gowans, Coordinator
316 KMB, (801) 378-6841

Many American Indian and non-Indian students graduating from Brigham Young University in studies such as education, sociology, business, and political science will be brought into contact with the Native American people because of the nature of their occupations.

The Native American Studies minor is designed to supplement students of various disciplines so that they may become more culturally aware of the heritage of the American Indian, thus promoting better understanding and cooperation.

The minor has been designed so that students may select classes from a variety of interdepartmental courses, if desiring a general background, or a combination of classes for an in-depth study in a specific discipline.

In connection with the American Studies program offered at Brigham Young University, students can obtain a major in American Studies, with course work designed to emphasize the Native American.

Make application to or obtain further information from the coordinator.

## Minor Native American Studies (22 hours)

1. Complete the following core courses:
   Engl 395R.
   Hist 223, 369, 490.
   NAS 101.
2. Select 8 hours from the following:
   Anthr 317.
   Hist 207, 362, 363, 406R, 457, 498R.
   NAS 111, 307, 369R.

**Note:** This minor may also be used for a secondary education teaching minor.

## Native American Studies (NAS)

### Undergraduate Courses

**101. Introduction to Indian America.** (2:2:0)
Modular course surveying historical and contemporary Indian America: history, culture, language, literature, art, music, education, and current problems.

**111. American Indian Art Appreciation.** (2:2:0)
History and appreciation of functional and aesthetic aspects of Native American art forms, prehistoric to present.

**307. Contemporary Issues in Indian America.** (3:3:0)
Sociocultural factors that affect twentieth-century native Americans in both urban and reservation settings.

**369R. Special Topics.** (1–3:3:0 ea.) Prerequisite: department's consent.

## History Faculty

**Professors**

Alexander, Thomas G. (1964) AS, Weber Coll., 1955; BS, MS, Utah State U., 1960, 1961; PhD, U. of California, Berkeley, 1965.

Britsch, R. Lanier (1966) BA, MA, Brigham Young U., 1963, 1964; PhD, Claremont Graduate School, 1967.

Brown, Kendall W. (1991) BA, Brigham Young U., 1973; MA, PhD, Duke U., 1975, 1979.

Fox, Frank W. (1971) BA, MA, U. of Utah, 1966, 1969; PhD, Stanford U., 1973.

Gowans, Frederick R. (1972) BS, MS, PhD, Brigham Young U., 1960, 1963, 1972.

Green, Arnold H. (1985) BA, California State U., Los Angeles, 1965; MA, Brigham Young U., 1967; PhD, U. of California, Los Angeles, 1973.

Madsen, Carol Cornwall (1980) BA, MA, PhD, U. of Utah, 1951, 1977, 1985.

Marlow, H. Carleton (1964) BS, MS, Brigham Young U., 1958, 1959; PhD, U. of Oklahoma, 1966.

Montgomery, David C. (1970) BA, Brigham Young U., 1961; MA, PhD, Indiana U., Bloomington, 1966, 1971.

Pixton, Paul B. (1974) BA, MA, U. of Utah, 1965, 1967; PhD, U. of Iowa, 1972.

Pratt, David H. (1966) BA, MA, Brigham Young U., 1963, 1969; PhD, U. of Nebraska, Lincoln, 1975.

Thorp, Malcolm Ray (1969) BS, MA, Brigham Young U., 1964, 1967; PhD, U. of Wisconsin, Madison, 1972.

Tobler, Douglas F. (1967) BA, MA, Brigham Young U., 1961, 1962; PhD, U. of Kansas, 1967.

Walker, Ronald W. (1980) BS, MA, Brigham Young U., 1961, 1965; MS, Stanford U., 1968; PhD, U. of Utah, 1977.

York, Neil Longley (1977) BA, MA, Brigham Young U., 1973, 1975; PhD, U. of California, Santa Barbara, 1978.

**Associate Professors**

Bohac, Rodney D. (1983) BA, U. of Nebraska (1974); MA, PhD, U. of Illinois, 1975, 1982.

Hamblin, William J. (1990) BA, Brigham Young U., 1978; MA, PhD, U. of Michigan, 1981, 1985.

Harline, Craig E. (1992) BA, Brigham Young U., 1980; MA, PhD, Rutgers, 1984, 1986.

Holmes, Blair R. (1971) BA, Brigham Young U., 1966; MA, PhD, U. of Colorado, 1968, 1972.

Richards, Mary Stovall (1983) BA, Brigham Young U., 1973; AM, PhD, U. of Chicago, 1976, 1983.

**Assistant Professors**

Butler, Lee A. (1994) BA, Brigham Young U., 1983; PhD, Princeton U., 1991.

Cannon, Brian Q. (1992) BA, Brigham Young U., 1984; MA, Utah State U., 1986; PhD, U. of Wisconsin, 1992.

Daynes, Kathryn (1994) BA, DePauw U., 1973; MA, PhD, Indiana U., 1975, 1991.

Doxey, Gary B. (1994) BA, JD, Brigham Young U., 1980, 1984; PhD, Cambridge U., 1992.

Epperson, Steven (1993) BA, Brown U., 1979; MA, U. of Chicago, 1980; PhD, Temple U., 1991.

Fox, William (1966) BS, MA, EdD, Brigham Young U., 1962, 1966, 1983.

Garcia, Ignacio (1995) BA, Texas A&I U., 1976; MA, PhD, U. of Arizona, 1989, 1995.

Grandstaff, Mark R. (1993) BS, Embry-Riddle Aeronautical U., 1980, MA, Brigham Young U., 1984; PhD, U. of Wisconsin, Madison, 1992.

Haslam, Gerald M. (1991) BA, MA, U. of Utah, 1972, 1974; PhD, Brigham Young U., 1981.

Pearcy, Thomas L. (1991) BA, MA, Purdue U., 1985, 1987; PhD, U. of Miami, 1993.

Ryskamp, George R. (1993) BA, JD, Brigham Young U., 1974, 1979.

Westover, V. Robert (1971) BA, MA, PhD, Arizona State U., 1965, 1968, 1979.

Wright, David C. (1992) BA, Brigham Young U., 1987; MA, PhD, Princeton U., 1991, 1993.

**Emeriti**

Addy, George M. (1957) BA, MA, Brigham Young U., 1948, 1950; PhD, Duke U., 1957.

Allen, James B. (1963) BS, Utah State U., 1954; MA, Brigham Young U., 1956; PhD, U. of Southern California, 1963.

Arrington, Leonard J. (1972) BA, U. of Idaho, 1939; PhD, U. of North Carolina, Chapel Hill, 1952.

Cardon, Louis B. (1960) BA, U. of Arizona, 1950; MA, PhD, U. of California, Berkeley, 1957, 1965.

Flammer, Philip M. (1973) BS, Utah State U., 1953; MA, George Washington U., 1958; PhD, Yale U., 1963.

Hill, Marvin S. (1966) BA, MA, Brigham Young U., 1955, 1955; PhD, U. of Chicago, 1968.

Hyer, Paul V. (1957) BA, Brigham Young U., 1951; MA, PhD, U. of California, Berkeley, 1953, 1960.

Jagchid, Sechin (1972) BA, PhD, Peking U., China, 1937, 1939.

Jensen, De Lamar (1957) BA, Brigham Young U., 1952; MA, PhD, Columbia U., 1953, 1957.

Johansson, Carl-Erik (1969) BA, MS, Brigham Young U., 1967, 1973.

Warner, Ted J. (1962) BS, MS, Brigham Young U., 1955, 1958; PhD, U. of New Mexico, 1963.

Wood, Joseph S. (1967) BS, PhD, U. of Utah, 1939, 1967.

Wright, Norman Edgar (1964) BS, Brigham Young U., 1956; MAG, Utah State U., 1958.

The following persons in other departments have also been granted academic rank by the Department of History:

Baker, Legrand (Lee Library) Assistant Professor
Embry, Jessie (Charles Redd Center) Associate Research Professor
Hall, John F., III (Humanities, Classics, and Comparative Literature) Associate Professor
Hartley, William G. (Joseph Fielding Smith Institute for Church History) Research Assistant Professor
Whittaker, David J. (Lee Library) Associate Professor

## *Charles Redd Center for Western Studies*

William A. Wilson, Director
4069 HBLL, (801) 378-4048

### Activities of the Center

Established in January 1972 under an endowment from Charles Redd, a prominent Utah stockman and philanthropist, the Charles Redd Center for Western Studies is charged with promoting the study of all aspects of the American West. Programs of the center include conducting research on the American West, publishing a monograph series, sponsoring lectures and symposia, conducting an oral history program, assisting professional and student research through grants and fellowships, providing consultation services on oral history, and assisting public school students through the Utah History Fair. Center personnel also teach classes in academic departments on campus.

**Chair Holder: Lemuel Hardison Redd, Jr., Professor of Western American History.**
Alexander, Thomas G. (1964) AS, Weber Coll., 1955; BS, MS, Utah State U., 1960, 1961; PhD, U. of California, Berkeley, 1965.

**Professor**
Wilson, William A., Humanities Professor of Literature and Folklore, (1984) BA, MA, Brigham Young U., 1958, 1962; PhD, Indiana U., 1974.

**Instructor and Oral History Program Director**
Embry, Jessie L. (1979) BA, MA, Brigham Young U., 1973, 1974.

**Emeriti**
Allen, James B. (1963) BS, Utah State U., 1954; MA, Brigham Young U., 1956; PhD, U. of Southern California, 1963.
Arrington, Leonard J., Lemuel Hardison Redd, Jr., Professor of Western American History.

**Advisory Council**
Alexander, Thomas G., Professor of History, BYU
Allen, James B., Professor of History, BYU
Backman, Milton V., Jr., Professor of Church History and Doctrine, BYU
Beecher, Maureen, Research Associate Professor, Joseph Fielding Smith Institute for Church History.
Brady, Margaret K., Professor of English and Folklore, U of U
Christy, Howard A., Senior Editor, Scholarly Publications, BYU
Cornwall, Marie, Department of Sociology, BYU
Flake, Chad J., Senior Librarian, BYU
Gardner, John H., Professor of Physics and Astronomy, BYU
Geary, Edward A., Professor of English, BYU
Jackson, Richard H., Professor of Geography, BYU
Janetski, Joel C., Assistant Professor of Anthropology, BYU
Leonard, Glen M., Director, Museum of Church History and Art
Magleby, David B., Associate Professor of Political Science, BYU
Mitchell, Regina, Salt Lake City, Utah
Peterson, Charles S., St. George, Utah.
Peterson, F. Ross, Professor of History and Director, Mountain West Center for Regional Studies, USU
Peterson, Levi, Professor of English, Weber State U.
Pope, Clayne L., Professor of Economics, BYU
Swenson, Sharon L., Assistant Professor of Theatre and Film, BYU

## Home Economics

See Family Sciences.

## Horticulture

See Agronomy and Horticulture.

# Humanities, Classics, and Comparative Literature

John F. Hall, Chair
3010-A JKHB, PO Box 26048, (801) 378-6246

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Humanities, Classics, and Comparative Literature are open enrollment. However, special limitations apply for teaching majors.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

**Humanities**

BA Humanities
Emphases:
- Art History
- English
- Classical Studies
- Comparative Literature
- Foreign Literature
- History
- Music
- Philosophy

BA Honors in Humanities and University Honors
Emphases:
- Art History
- English
- Comparative Literature
- Foreign Literature
- History
- Music
- Philosophy

BA Humanities Composite Teaching
Emphases:
- English
- French
- German
- History
- Japanese
- Latin
- Russian
- Spanish

Minor Humanities

**Classics**

BA Classical Studies
Emphases:
- Classical Civilization
- Classics
- Greek
- Latin

BA Latin Teaching
Minors Classical Studies
Latin Teaching

**Comparative Literature**

BA Comparative Literature
BA Honors in Comparative Literature and University Honors

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Comparative Literature
MA Humanities

For more information see the 1996–97 BYU Graduate Catalog.

# *Humanities*

### The Discipline

The term *humanities* refers to the study of human intellectual and artistic creativity and the record of human experience as seen in the arts. It is an interdisciplinary major drawing from history, fine arts, literature, intellectual history, music, foreign languages, etc. In this major the student focuses on the arts as modes of human expression and how the arts combine to give a unique view of what it has meant to be human through the ages—and how they continue to influence us today. Besides

teaching the interrelatedness of the arts, the study of humanities emphasizes the relationships between the arts and other aspects of human culture and society.

The major offers students unusual latitude in developing a broad and full program in the liberal arts, as well as developing skills in reasoning, language, writing, and library use—all essential elements for later independent learning as well as for functioning well in society.

**Career Opportunities**

The interdisciplinary nature of the major makes it an excellent preparation for graduate work in humanistic disciplines and professional schools and also for a wide range of employment, including secondary teaching. Humanities graduates going directly into the work force commonly find professional employment in education, business, government, tourism, and civil or foreign service. Those going on to graduate school usually work toward the doctorate or attend professional programs in such disciplines as library science, law, business, public administration, and medicine.

## BA Humanities (56–84 hours*)

Students may select one of eight emphases: art, English, Classical Studies, comparative literature, foreign literature, history, music, or philosophy.

**Major Requirements**

1. No D credit is allowed in major courses.
2. When possible, Honors sections are recommended.
3. Complete the following historical foundation courses:
   Hum 101, 201, 202, 261, 262.
   ClCv 110 or 241.
   Hum 240 or 242.
4. Select 9 hours (3 hours in each category) from the following traditional humanistic skills courses:
   a. Complete one upper-division literature course taught in a foreign language beyond GE requirement. This requirement may be filled with the following courses. (Please note that ASL or music does not fill this requirement):
      Arab 451.
      Chin 321, 322, 441, 442, 443, 444..
      Dansh 340.
      Finn 340.
      Fren 420, 421, 439, 441, 442, 443, 444.
      Germ 340, 430, 431, 440R, 441R, 442R.
      Greek 430, 431, 433, 434, 435, 436, 437.
      Heb 341, 431, 441, 442, 443, 444.
      Ital 420, 421, 441, 442, 443, 444, 460.
      Japan 441, 444.
      Korea 340, 443.
      Latin 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441.
      Norwe 340.
      Port 339, 441, 451.
      Russ 441, 442.
      Scand 430.
      Span 339, 441, 451, 461R.
      Swed 340.
   b. Hum 350 (Prerequisite: Engl 311 or Phil 311).
   c. Phil 110, 213, 214.
5. Select 6 hours of problems and issues courses from the following:
   Hum 401R, 402R, 403, 404R, 405R.
6. Complete a core of 12 hours (more if music) in an area of emphasis. (Philosophy or foreign literature courses taken from the lists above may *not* count toward emphases in philosophy and literature.) Courses toward the emphasis area are to be selected from the an approved list of courses to be obtained from your advisement center. Exceptions must be cleared by the department. At least 6 of the 12 hours must be in upper-division courses.
7. Supporting course work (8–9 hours): This block of course work can be selected in a variety of ways, depending on the student's emphasis or career plans. Two requirements govern the selection of courses: (1) they must be a coherent block and (2) they must be approved in writing by the department student advisor. The following are possibilities:
   a. Students in *general humanities* or students desiring to pursue a *graduate degree in a humanistic discipline* will use this block to strengthen the emphasis area either by further work in the emphasis area proper or by coherent course work (e.g., period concentration, area studies, etc.) in related humanities fields. The list of approved courses for the emphasis area may be used as a guide, but other courses (e.g., in humanities, classical civilization, or Honors humanities) may also be approved.
   b. For students wishing to certify in *secondary teaching* with a humanities composite teaching major, the supporting course work requirement will be filled by the professional education classes. See the Secondary Education section of this catalog for these requirements.
   c. Students wishing to combine a humanities major with preparation for *professional schools* (e.g., MBA programs) that may require quantitative skills beyond those already acquired may use this block of supporting course work to acquire and strengthen those skills (e.g., CS 133, Acc 200, Econ 110, Math 119, or Stat 222). Other *preprofessional* blocks of course work (law, medicine, management communications, etc.) may also be approved by the humanities section representative.
   d. Any university minor will also qualify.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Humanities and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA Humanities Composite Teaching (76–115 hours,* including certification hours)

Students may select one of the following composite majors: English, history, or foreign language in either French, German, Japanese, Latin, Russian, or Spanish.

**Major Requirements**

1. No D credit is allowed in major courses.
2. When possible, Honors sections are recommended.
3. Complete the following historical foundation courses:
   Hum 101, 201, 202, 261, 262.
   ClCv 110 or 241.
   Hum 240 or 242

4. Select 9 hours (3 hours in each category) from the following traditional humanistic skills courses:
   a. Complete one upper-division literature course taught in a foreign language beyond GE requirement. (Foreign language areas may overlap with item 6 below.) This requirement may be filled with the following courses. (Please note that ASL or music does not fill this requirement):
      Arab 461, 462.
      Chin 321, 322, 441, 442, 443, 444.
      Dansh 340.
      Finn 340.
      Fren 420, 421, 439, 441, 442, 443, 444.
      Germ 340, 430, 431, 440R, 441R, 442R.
      Greek 430, 431, 433, 434, 435, 436, 437.
      Heb 341, 431, 441, 442, 443, 444.
      Ital 420, 421, 441, 442, 443, 444, 460.
      Japan 441, 444.
      Korea 340, 443.
      Latin 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441.
      Norwe 340.
      Port 339, 441, 451.
      Russ 441, 442.
      Scand 430.
      Span 339, 441, 451, 461R.
      Swed 340.
   b. Hum 350 (Prerequisite: Engl 311 or Phil 311).
   c. Phil 110, 213, or 214.
5. Select 6 hours of problems and issues courses from the following:
   Hum 401R, 402R, 403, 404R, 405R.
6. Complete an area of emphasis. (Philosophy or foreign literature courses taken from the lists above may *not* count toward emphases in philosophy and literature.) Courses toward the emphasis area are to be selected from the approved course list available from your advisement center. Exceptions must be cleared by the department.
7. Complete the Professional Education Component (27–28* hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Humanities (18 hours*)

1. Complete the following:
   Hum 101, 201, 202, 350.
2. Select one course from the following:
   Hum 240, 242, 261, 262.
3. Select one course from the following:
   Hum 401R, 402R, 403, 404R, 405R.
4. Study a foreign language through the fourth semester or know the equivalent.

*Hours include courses that may fulfill GE or university requirements.

# Humanities (Hum)

## Undergraduate Courses

**101. An Introduction to the Humanities.** (3:3:0) Independent Study also.
Study of the arts emphasizing forms and relationships, the development of critical skills, and an awareness of traditional humanistic values.

**201. Arts in Western Culture 1.** (3:3:0) Honors also.
Western civilization from Greek antiquity to Renaissance from perspective of traditional humanistic values reflected in its arts and ideas. Examines fundamental questions about human experience, formative events in history, and value of important literary and artistic texts.

**202. Arts in Western Culture 2.** (3:3:0) Honors also.
Western civilization from Renaissance to present from perspective of traditional humanistic values reflected in its arts and ideas. Examines fundamental questions about human experience, formative events in history, and value of important literary and artistic texts.

**240. Introduction to the Humanities of Asia.** (3:3:0)
Major arts of Asian cultures in their historical, religious, and philosophical settings.

**242. Introduction to the Humanities of the Islamic World.** (3:3:0)
Major arts of Islamic cultures in their historical, religious, and philosophical settings.

**261. Introduction to American Humanities 1: Colonial Era Through 1876.** (3:3:0) Honors also.
Value systems reflected in the arts and ideas of the United States from the colonial era to 1876.

**262. Introduction to American Humanities 2: 1877 to the Present.** (3:3:0) Honors also.
Value systems reflected in the arts and ideas of the United States from 1877 to the present.

**270R. European Humanities and the Arts.** (1–6:Arr.:Arr. ea.) Only offered on the six-month Study Abroad programs in London and Vienna.

**290R. Special Studies in the Humanities.** (3:0:0 ea.)

**350. Interpretation of Literature and the Arts.** (3:3:0) Prerequisite: all historical foundation courses (item 3 under major requirements) and either Engl 311 or Phil 311.
Understanding and writing about literature and at least one of the other arts; bibliographic techniques. Should be taken junior year.

**401R. Topics in Humanities.** (3;3:0 ea.) Prerequisite: Hum 350.
Topics vary.

**402R. Contemporary Issues in the Humanities.** (3:3:0 ea.) Prerequisite: Hum 350.
Topics vary.

**403. Interrelations of the Arts.** (3:3:0) Prerequisite: Hum 350.
Theory and methodology of the study of interrelations among the arts.

**404R. Period Studies and the Problem of Periodization.** (3:3:0 ea.) Prerequisite: Hum 350.
Topics vary.

**405R. Theories of Cultural History.** (3:3:0 ea.) Prerequisite: Hum 350.
Types and models of cultural history or of historical topics in the humanities (history of criticism, cultural historiography, etc.). Topics vary.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**590R. Directed Readings.** (1–3:Arr.:Arr. ea.) Prerequisite: consent of graduate coordinator.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# *Classics*

### The Discipline

Classical Studies examine ancient Greek and Roman cultures—their languages, literature, history, religion, art, and philosophy.

The major offers essential knowledge of philology, ancient history, archaeology, biblical studies, and the literary tradition of Western Europe, as well as traditional grounding in the Classics. Students acquire important foreign-language study skills that include careful reading, thoughtful writing, and persuasive speaking. Latin is the mother language not only of Italian, French, and Spanish, but in a real sense of English as well. Its study will especially enhance one's understanding of English vocabulary, grammar, and rhetorical structure.

**Greek and Roman History.** Classics has the responsibility for staffing and administering offerings in Greek and Roman history. Courses in these fields are offered under Classical Civilization, Classics, Greek, and Latin. Some of these courses are cross-listed with history, and several may count toward a history major. See the History section of this catalog for details.

**Classical Civilization.** Classical Civilization courses presuppose no knowledge of the Greek or Latin languages and are open to all students. They are especially recommended for those who want to understand the ancient traditions underlying modern culture.

### Career Opportunities

Majors in Classical Studies find employment in a variety of fields, including business, education, library science, tourism, and civil and foreign service. They are also excellent candidates for graduate work in other humanities-related disciplines and professional schools (law, business, and medicine).

## BA Classical Studies: Classical Civilization Emphasis (43 hours*)

Emphasizes Classical Civilization, with work in either Greek or Latin.

### Major Requirements

1. Complete the following:
   ClCv 110, 241, 304, 307, 361, 362.
   Clscs 420.
2. Select one of the following options:
   a. Greek 201, 301, 302.
   b. Latin 201, 301, 302.
3. Select 3 hours from the following in the same language as above:
   Greek 411R, 430, 431, 433, 434, 435, 436, 437, 490R.
   Latin 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 479, 490R.
4. Select three courses from the following:
   ClCv 121, 122, 245, 246, 261, 310, 340R, 355.
   Clscs 430R, 490R.

*Hours include courses that may fulfill GE or university requirements.

## BA Classical Studies: Classics Emphasis (50 hours*)

Emphasizes Greek and Latin literature and language, with some work in Classical Civilization.

### Major Requirements

1. No D credit is allowed in major courses.
2. Select one course from the following:
   ClCv 110, 241.
3. Complete the following:
   ClCv 304, 307.
   Clscs 420.
   Greek 201, 301, 302.
   Latin 201, 301, 302.
4. Select one course from the following:
   ClCv 361, 362.
5. Select one course from the following:
   Greek 321.
   Latin 321.
6. Select four additional courses (two Greek, two Latin) from the following:
   Clscs 430R, 490R, or any 400-level course in Greek or Latin..

*Hours include courses that may fulfill GE or university requirements.

## BA Classical Studies: Greek Emphasis (37 hours*)

Emphasizes Greek language and literature, with some work in Greek civilization.

### Major Requirements

1. No D credit is allowed in major courses.
2. Select one course from the following:
   ClCv 110, 241.
3. Complete the following:
   ClCv 304, 361.
   Clscs 420.
   Greek 201, 301, 302, 321.
4. Select 12 hours from the following:
   Clscs 430R, 490R.
   Greek 311, 411R, 430, 431, 433, 434, 435, 436, 437, 490R.

*Hours include courses that may fulfill GE or university requirements.

## BA Classical Studies: Latin Emphasis (37 hours*)

Emphasizes Latin language and literature, with some work in Roman civilization.

### Major Requirements

1. No D credit is allowed in major courses.

2. Select one course from the following:
   ClCv 110, 241.
3. Complete the following:
   ClCv 307, 362.
   Clscs 420.
   Latin 201, 301, 302, 321.
4. Select 12 hours from the following:
   Clscs 430R, 490R.
   Latin 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 479, 490R.

*Hours include courses that may fulfill GE or university requirements.

## BA Latin Teaching (83–89 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. An approved teaching minor is required (approximately 16–21 hours).
3. Complete the following:
   Latin 201, 301, 302, 321, 377.
   ClCv 307, 362.
   Clscs 420.
4. Select one course from the following;
   ClCv 110, 241.
5. Select 12 hours from the following:
   Clscs 430R, 490R.
   Latin 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 479, 490R.
6. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Classical Studies (Classical Civilization option) (21 hours)

1. Complete 15 hours of course work in Classical Civilization.
2. Complete 6 additional hours in Classical Civilization or in Latin and Greek beyond the 100-level.

## Minor Classical Studies (Classics option) (25 hours)

1. Complete 19 hours of course work in Latin or Greek beyond the 100-level.
2. Complete 6 hours of course work in Latin, Greek, or Classical Civilization.

## Minor Classical Studies (Greek option) (22 hours)

1. Complete 16 hours of course work in Greek beyond Greek 102.
2. Complete 6 hours of course work in Greek, Classical Civilization, or Classics.

## Minor Classical Studies (Latin option) (22 hours)

1. Complete 16 hours of course work in Latin beyond Latin 102 and 111.
2. Complete 6 hours of course work in Latin, Classical Civilization, or Classics.

## Minor Latin Teaching (22 hours*)

1. Complete the following:
   Latin 201, 301, 302, 321, 377.
2. Select 6 hours from the following:
   Latin 430, 431, 433, 434, 435, 436, 437, 438, 439, 440, 441, 490R.

   **Note:** One course from ClCv 246, 307, 340R, 362, or Clscs 430R may be substituted.

*Hours include courses that may fulfill GE or university requirements.

## Classical Civilization (ClCv)

### Undergraduate Courses

**110. Introduction to Greek and Roman Literature.** (3:3:0) Honors also.
Homer's *Iliad*, Sophocles' *Oedipus the King*, Vergil's *Aeneid*, and other important works of the Greeks and Romans. All readings in English.

**121. Warfare in Ancient Greece and Rome.** (3:3:0)
Military history of ancient Greece and Rome with emphasis on organization, tactics, strategy, major commanders, and important battles.

**122. Greek and Roman Religion.** (3:3:0)
Worship and cults in ancient Greece and Rome from the archaic period through the demise of Greco-Roman religion with the triumph of Christianity.

**241. Greek and Roman Mythology.** (3:3:0) Honors also.
Greek and Roman gods, heroes, and myths, emphasizing literature but also giving attention to representations in the visual arts.

**245. Golden Age of Greece.** (3:3:0)
History of Civilization, culture, and daily life of Greece as indicated through its literature, art, history, and archaeology. All readings in English.

**246. Golden Age of Rome.** (3:3:0)
History of Civilization, culture, and daily life of Rome as indicated through its literature, art, history, and archaeology. All readings in English.

**261. Greek and Roman Civilization and Literature in Film.** (3:3:0)
Literature and civilization of ancient Greece and Rome as depicted in modern film with attendant problems of accuracy and historicity.

**304. (ClCv-Hist) Greek History.** (3:3:0)
Political, economic, social, and intellectual history of Greece from Mycenaean times to the Hellenistic period.

**307. (ClCv-Hist) Roman History.** (3:3:0)
Political, economic, social, and intellectual history of Rome from the foundation of the city to Constantine.

**310. Classical Archaeology.** (3:3:0)
Major excavations and antiquities of the Mediterranean region illustrating Greco-Roman history.

**340R. Topics in Classical Literature and Civilization.** (3:3:0 ea.)
Classical literary genres; rhetorical, philosophical, and historical writings; relationships of art and literature; or the classical tradition in the Middle Ages and Renaissance. Topics vary.

**355. (ClCv-Engl) Greek and Roman Classics and the English Tradition.** (3:3:0)
Major works by such authors as Homer, the Greek and Roman tragedians, Thucydides, Vergil, and Petronius in English translation, emphasizing their influence on English and American literature.

**361. Survey of Greek Literature.** (3:3:0)
Development and interrelation of literary genres of ancient Greece, e.g., epic and lyric poetry, tragedy, history, philosophy, etc. Texts read in English.

**362. Survey of Latin Literature.** (3:3:0)
Development and interrelation of the literary genres of ancient Rome, e.g., comedy, poetry, history, oratory, etc. Texts read in English.

## Classical Greek (Greek)

### Undergraduate Courses

**101. First-Year Greek (First Semester).** (4:4:0)

**102. First-Year Greek (Second Semester).** (4:4:0)

**201. Intermediate Greek.** (4:4:0) Prerequisite: Greek 102 or 111.
Readings from Xenophon with review and continuation of grammar.

**301. Classical Greek Poetry: Homer's *Iliad*.** (3:3:0) Prerequisite: Greek 201.

**302. Classical Greek Prose.** (3:3:3) Prerequisite: Greek 201.

**311. New Testament in Greek: Gospels.** (3:3:0) Prerequisite: Greek 201.

**321. Third-Year Grammar and Composition.** (3:3:0) Prerequisite: Greek 302.
Exercises in composing Greek prose.

**411R. Topics in New Testament Greek.** (3:3:0 ea.) Prerequisite: Greek 311.
Readings from the Gospels, the Pauline or general epistles, or the Apocalypse.

**430. Herodotus.** (3:3:0) Prerequisite: Greek 302 or equivalent.

**431. Homer's *Odyssey*.** (3:3:0) Prerequisite: Greek 301.

**433. Thucydides.** (3:3:0) Prerequisite: Greek 302.

**434. Sophocles and Euripides.** (3:3:0) Prerequisite: Greek 301.

**435. Greek Lyric Poetry.** (3:3:0) Prerequisite: Greek 301.

**436. Plato.** (3:3:0) Prerequisite: Greek 302.
Reading and analysis of Greek text of selected dialogues by Plato (e.g., *The Republic, Meno, Protagoras*).

**437. Attic Orators.** (3:3:0) Prerequisite: Greek 302.

**490R. Topics in Greek Literature.** (1–3:3:0 ea.)
Topics vary.

## Modern Greek (GrkM)

### Undergraduate Courses

***101, *102. First-Year Modern Greek.** (4:4:0 ea.)
Basic language skills.

***201. Second-Year Modern Greek.** (4:4:0)
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

***211. Second-Year Conversation.** (2:2:0) Prerequisite: GrkM 201 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**230 Historical Development of Greek Language.** (4:4:0)
Course is required for returned missionaries taking language credit examination. Development of modern Greek from classical Greek, with primary emphasis on introductory elements of latter.

**247. Cultural and Literary History of Greece.** (3:3:0)
Civilization, culture, and daily life of Greece as indicated through its literature, art, history, and archaeology. All readings in English.

*Credit by examination only. Enrollment in GrkM 230 is required to take language credit examination that is administered in that course for 101, 102, 201, and 211 credit. Language GE credit is fulfilled by completing in addition to these requirements GrkM 247.

## Classical Latin (Latin)

### Undergraduate Courses

**101. First-Year Latin (First Semester).** (4:4:0)

**102. First-Year Latin (Second Semester).** (4:4:0) Prerequisite: Latin 101 or two years of high school Latin.

**111. Beginning Latin Accelerated.** (5:5:0) Honors also.
Equivalent of combined Latin 101, 102. Prepares students for Latin 201.

**121. Latin for Genealogists.** (3:3:0) Independent Study also.

**122. Prelegal Latin.** (2:2:0)
Recommended for prelaw and current law students (usually taught in the evening).

**123. Premedical Latin and Greek.** (2:2:0)
For premedical and predental students and students in the physical and natural sciences (usually taught in the evening).

**201. Intermediate Latin.** (4:4:0) Prerequisite: Latin 102, 111, or three years of high school Latin.
Readings from Caesar, with a review and continuation of grammar.

**301. Classical Latin Poetry.** (3:3:0) Prerequisite: Latin 201.
Selections from Vergil's *Aeneid* and Ovid's *Metamorphoses*.

**302. Classical Latin Prose.** (3:3:0) Prerequisite: Latin 201.
Readings in Cicero's Catilinarian orations and Sallust's *Catiline*.

**321. Third-Year Grammar and Composition.** (3:3:0) Prerequisite: Latin 302 or concurrent registration.

**377. Secondary Teaching Procedures.** (3:3:1) Prerequisite: ScEd 276R; Latin 321 or equivalent.
Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of linguistic techniques to practical classroom requirements.

**430. Livy.** (3:3:0) Prerequisite: Latin 302.
Selections from Livy's *Ab Urbe Condita*.

**431. Vergil.** (3:3:0) Prerequisite: Latin 301.

**432. Ovid.** (3:3:0) Prerequisite: Latin 301.

**433. Cicero.** (3:3:0) Prerequisite: Latin 302.
Selections from the works of Cicero.

**434. Plautus and Terence.** (3:3:0) Prerequisite: Latin 301.

**435. Catullus.** (3:3:0) Prerequisite: Latin 301.

**436. Tragedy and Epic of the Early Empire.** (3:3:0) Prerequisite: Latin 301.
Selections from Seneca, Lucan, and the Flavian epic poets.

**437. The Latin Epistle.** (3:3:0) Prerequisite: Latin 302.
Letters of Cicero, Seneca, Pliny, and the later tradition.

**438. Horace.** (3:3:0) Prerequisite: Latin 301.

**439. Tacitus.** (3:3:0) Prerequisite: Latin 302.

**440. Roman Satire.** (3:3:0) Prerequisite: Latin 301.
Selections from Horace, Petronius, and Juvenal.

**441. Medieval and Renaissance Latin.** (3:3:0) Prerequisite: Latin 301, 302.
Study of particular periods (e.g., Carolingian renaissance, twelfth-century renaissance) or genres (e.g., historiography, epic, autobiography), or survey of medieval Latin. Topics vary.

**479. Secondary Student Teaching.** (1–8:1:40) Prerequisite: ScEd 276R; Latin 321, 377.

**490R. Topics in Latin Literature.** (1–3:3:0 ea.)
Topics vary.

## Classics (Clscs)

### Undergraduate Courses

**420. Ancient Literary Criticism.** (3:3:0) Prerequisite: Greek 302 or Latin 302.
Survey emphasizing both chief works of the tradition and their practical application to reading of Greek and Latin authors.

**430R. (Clscs-Hist) Topics in Greek and Roman History.** (3:3:0 ea.) Prerequisite: Greek 201 (Greek topics) or Latin 201 (Roman topics).
Topics vary (e.g., rise of the Greek city-state, Greek political thought, classical historiography, Rome and the Etruscans, imperial Rome).

**490R. Seminar in Classics.** (3:3:0 ea.)
Combined topics in Greek and Latin (e.g., comparative epic poetry, classical tradition of criticism, Euripides and Seneca). Topics vary.

# *Comparative Literature*

**The Discipline**

Comparative Literature is the study of literature in its totality. The Comparative Literature major not only acquaints students with literary study beyond the confines of any particular national tradition but also with the relationship between literature and other areas of knowledge. Combining the synthesizing skills and knowledge related to individual national literatures, the comparative literature major utilizes a wide range of linguistic and philosophical knowledge unique to an undergraduate program. Pursued as a major, the field offers students unusual latitude in developing a broad and full program in the liberal arts, as well as developing competence in reasoning, language, writing, and research—essential for later independent learning.

**Career Opportunities**

Comparative Literature majors are well prepared for graduate programs in languages and literature and for employment in the foreign service, library science, business, education, and tourism. In addition, comparative literature is an outstanding preprofessional major for those interested in law, public administration, business management, and medicine.

## BA Comparative Literature (36–71 hours*)

**Major Requirements**

1. Acquire a thorough knowledge of two language traditions relevant to individual program of study (one of these may be English for students who emphasize the Anglo-American literary tradition)(approximately 16–32 hours). Competence will normally be demonstrated in course work, but an examination may be required. If planning advanced work in comparative literature, students should gain reading knowledge of both an additional modern language and a classical language.
2. No D credit is allowed in major courses.
3. CLit 310 and reading knowledge of at least one foreign language are prerequisite to all upper-division comparative literature courses.
4. During the final semester an exit examination on the BA reading list in comparative literature will be administered. This requirement must be met before graduation clearance can be given.
5. Course configuration must be approved by department advisor.
6. Complete the following:
   CLit 310 and two courses of 420R (different periods of study).
7. Complete four courses from the following:
   CLit 430R, 440R, 450R, 460R.
8. Select one of the following options:
   **Either** complete a literature course in Greek or Latin
   **Or** select one course from the following:
   ClCv 110 or 355.
9. The following courses deal with texts in the original language. These courses must be in addition to previous requirements. Although English courses may be taken, courses must be taken in at least one other language as well. Complete 12 hours from the following:
   Arab 461, 462, 531R.
   Chin 441, 442, 443, 444, 490R.
   Dansh 340.
   Dutch 340.
   Engl 333, 336, 341, 343, 361, 362, 363, 366, 371, 372, 373, 374, 375, 376, 381, 382, 383, 395R, 500R, 510R.
   Finn 340.
   Fren 441, 442, 443, 444, 490R.
   Germ 430, 431, 440R, 441R, 442R, 490R, 498R.
   Greek 430, 431, 433, 434, 435, 436, 437.
   Heb 431, 441, 442, 443, 444.
   Ital 441, 442, 443, 444, 460, 490R.
   Japan 441, 444, 490R.
   Korea 340, 443, 490R.
   Latin 430, 431, 432, 433, 434, 435, 436, 438, 439, 440, 441, 490R.
   Norwe 340
   Phil 214.
   Port 441, 451.
   Russ 441, 442, 490R.
   Span 441, 451, 461R, 490.
   Swed 340.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Comparative Literature and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Comparative Literature (CLit)

### Undergraduate Courses

**201. History of Civilization: Literature 1.** (3:3:0) Honors also.
Major world civilizations from antiquity to early Italian Renaissance, emphasizing socioeconomic, political, intellectual, and aesthetic developments, with primary focus on literary texts.

**202. History of Civilization: Literature 2.** (3:3:0) Honors also. Prerequisite: CLit 201.
Major world civilizations from Europe's High Renaissance to modern times, emphasizing socioeconomic, political, intellectual, and aesthetic developments, with primary focus on literary texts.

**310. Introduction to Literary Analysis and Comparative Literature.** (3:3:0) Prerequisite: reading knowledge of at least one foreign language.
Methods of literary analysis, emphasizing basic issues of comparative literature and prosody and other problems related to foreign language texts.

**420R. Studies in Periods and Movements.** (3:3:0 ea.) Prerequisite: CLit 310 or Hum 350 or concurrent registration.
Topics vary.

**430R. Studies in Literary Genres.** (3:3:0 ea.) Prerequisite: CLit 310 or concurrent registration.
Various genres (e.g., novel, epic, tragedy) and problems of genre. Topics vary.

**440R. Studies in Themes and Types.** (3:3:0 ea.) Prerequisite: CLit 310 or concurrent registration.
Major literary themes (e.g., Faust, Don Juan, Ulysses, Arthur), types, motifs, and problems of literary typology. Topics vary.

**450R. Studies in Literary Relations.** (3:3:0 ea.) Prerequisite: CLit 310 or concurrent registration.
Interrelations of national literatures and figures and of literature with other areas of knowledge (art, history, law, psychology, music, etc.). Topics vary.

**460R. Studies in Literary Theory.** (3:3:0 ea.) Prerequisite: CLit 310 or concurrent registration.
Topics vary.

**490R. Directed Readings.** (1–3:0:0 ea.)

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.)

### 500-Level Graduate Course (available to advanced undergraduates)

**590R. Directed Readings.** (1–3:Arr.:0 ea.) Prerequisite: consent of graduate coordinator.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

### Humanities, Classics, and Comparative Literature Faculty

**Professors**

Bassett, Arthur R. (1972) BS, MRL, Brigham Young U., 1960, 1966; PhD, Syracuse U., 1975.

Britsch, Todd A., Academic Vice President (1966) BA, Brigham Young U., 1962; MA, PhD, Florida State U., 1965, 1966.

Marshall, Donald R. (1971) BA, MA, Brigham Young U., 1960, 1965; PhD, U. of Connecticut, 1971.

Peer, Larry H. (1975) BA, MA, Brigham Young U., 1963, 1965; PhD, U. of Maryland, College Park, 1969.

Sondrup, Steven P., Ludwig, Weber, Siebach Professor of Literature (1973) BA, U. of Utah, 1968; MA, PhD, Harvard U., 1969, 1974.

Tate, George S. (1974) BA, MA, Brigham Young U., 1969, 1970; PhD, Cornell U., 1974.

**Associate Professors**

Butler, Terrell M. (1979) BA, Brigham Young U., 1969; MA, PhD, Cornell U., 1972, 1979.

Call, Michael J. (1983) BA, MA, Brigham Young U., 1971, 1976; PhD, Stanford U., 1982.

Davis, Norma (1978) BA, MA, Brigham Young U., 1972, 1975.

Green, Jon D. (1970) BA, MA, Brigham Young U., 1966, 1968; PhD, Syracuse U., 1972.

Hall, John F. (1978) BA, Brigham Young U., 1975; MA, PhD, U. of Pennsylvania, 1978, 1984.

Lounsbury, Richard C. (1982) BA, U. of Calgary, Canada, 1970; MA, PhD, U. of Texas, Austin, 1972, 1979.

Shumway, Larry V. (1975) BA, Brigham Young U., 1960; MA, Seton Hall U., 1960; PhD, U. of Washington, 1974.

**Assistant Professors**

Benfell, V. Stanley (1993) BA, Brigham Young U., 1987; MA, PhD, New York U., 1990, 1994.

DeBloois, Nanci (1994) BA, MA, MA, Brigham Young U., 1979, 1981, 1983; PhD, U. of Iowa, 1994.

Duckwitz, Norbert H. O. (1969) BA, MA, Brigham Young U., 1969, 1972; AM, Harvard U., 1974; PhD, U. of Colorado, 1987.

Macfarlane, Roger T. (1989) BA, Brigham Young U., 1985; MA, PhD, U. of Michigan, 1987, 1991.

Parry, Joseph D. (1993) BA, MA, Brigham Young U., 1985, 1987; PhD, U. of Utah, 1994.

**Instructors**

Huntsman, Eric D. (1994) BA, Brigham Young U., 1990; MA, U. of Pennsylvania, 1992.

Phillips, Michael D. (1994) BA, MA, Brigham Young U., 1987, 1990.

**Emeriti**

Davis, Harrison M. (1962) BS, MA, Utah State U., 1961, 1963.

Phillips, R. Douglas (1966) BA, Brigham Young U., 1962; MA, PhD, U. of Illinois, 1964, 1972.

Spears, Irene O. (1936) BA, Brigham Young U., 1929; MA, PhD, Stanford U., 1934, 1942.

## Hungarian

See Germanic and Slavic Languages.

## Icelandic

See Germanic and Slavic Languages.

## Information Management

See Management Communication.

# Instructional Science

Paul F. Merrill, Chair
201 MCKB, PO Box 25090, (801) 378-5097

College of Education Advisement Center
120 MCKB, PO Box 25096, (801) 378-3426

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Instructional Science |
| PhD | Instructional Psychology |
| PhD | Instructional Science |

For more information see the 1996–97 BYU Graduate Catalog.

## Instructional Science (IS)

### Undergraduate Courses

The Department of Instructional Science does not offer a baccalaureate degree. However, undergraduate classes are offered as service courses to other departments in the College of Education. Some of these classes are cross-listed with other departments.

**286. Instructional Technology in Teaching.** (1–3:Arr.:Arr.) F, W, Sp, Su
Using instructional design, visual design, and differentiated staffing principles along with multimedia authoring systems, telecommunication, and other computer-based tools in the development of educational applications.

**301. Educational Psychology.** (2:2:0) F, W, Sp, Su
Basic principles of educational psychology applied to teaching, including learning theory, instructional strategies, assessment of learning outcomes, and classroom inquiry.

**470R. Undergraduate Research Training.** (1–3:Arr.:Arr. ea.) F, W
Introduction of undergraduate students to the concepts of research and evaluation through practical experience.

### 500-Level Graduate Courses (available to advanced undergraduates)

**515R. Special Topics in Instructional Science.** (1–3:3:1 ea.) F, W, Sp, Su On dem.

**551. Introduction to Quantitative Reasoning.** (3:3:0) F, Su On dem.
Introduction to statistical reasoning and methodology. Emphasizes the meaning and use of quantitative methods in answering substantive questions of educational research and practice. Use of computer software packages.

**560. Microcomputer Materials Production.** (3:3:Arr.) W, Su
Prerequisite: IS 286 or 515R (Microcomputers in Schools).
Designing, programming, and debugging educational applications of microcomputers using a high-level computer language.

**564. Instructional Design.** (3:3:Arr.) F, Su
Identifying instructional problems; specifying objectives, instructional strategies, and media; analyzing learning outcomes; developing instructional materials and assessment instruments; validating instructional systems.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

### Instructional Science Faculty

**Professors**
Bunderson, C. Victor (1991) BS, U. of Utah, 1961; PhD, Princeton U., 1965.
Green, Edward E. (1972) BA, Brigham Young U., 1965; MS, EdD, Indiana U., Bloomington, 1970, 1972.
Harrison, Grant V. (1969) BA, Brigham Young U., 1963; MA, Adams State Coll. of Colorado, 1965; EdD, U. of California, Los Angeles, 1969.
Merrill, Paul F. (1977) BS, Brigham Young U., 1967; PhD, U. of Texas, Austin, 1970.
Osguthorpe, Russell T., Associate Dean (1978) BS, MS, PhD, Brigham Young U., 1971, 1973, 1975.
Spencer, Robert W. (1967) BS, MS, Utah State U., 1963, 1965; EdD, Brigham Young U., 1971.
Van Mondfrans, Adrian P. (1971) BS, MA, U. of Utah, 1963, 1964; PhD, U. of Wisconsin, Madison, 1967.

**Associate Professors**
Inouye, Dillon K. (1978) BS, Brigham Young U., 1973; PhD, Stanford, U., 1978.
Sudweeks, Richard R. (1980) BS, MA, Brigham Young U., 1965, 1973; PhD, U. of Illinois, 1978.
Williams, David D. (1980) BS, Brigham Young U., 1976; MA, Western Michigan U., 1978; PhD, U. of Colorado, 1981.

**Assistant Professor**
Bunderson, Eileen D. (1991) BA, MS, U. of Utah, 1959, 1962; PhD, Brigham Young U., 1983.

**Adjunct Faculty**
E. Curtis Fawson, Andrew S. Gibbons, Conrad A. Gottfredson, Ronald Edward Guymon, Trudy Kowallis, Richard Dwight Laws, James B. Olsen, Dwayne Rogers

**Emeriti**
Brown, J. Richard (1956) BS, MEd, Brigham Young U., 1949, 1956.

# International and Area Studies

See Kennedy Center for International Studies, David M.

# International Relations

See Kennedy Center for International Studies, David M.

# Italian

See French and Italian.

# Japanese

See Asian and Near Eastern Languages.

# Jerusalem Center for Near Eastern Studies

**Director:** Paul H. Peterson, Professor of Church History and Doctrine

**Associate Director:** Kaye Hanson, Assistant Professor of Management Communication

**Assistant Director—Administration:** Rex Bennion

**Academic Coordinator:** Richard H. Berrett

**Librarian:** Bobbie Peterson

## General Information

1. The Brigham Young University Jerusalem Center for Near Eastern Studies is an educational and cultural center created for study in the Near East, emphasizing religion, the humanities, and the social sciences. The Jerusalem Center has four principal goals:
   a. Provide students an opportunity to study the scriptures in the setting in which the patriarchs, prophets, and the Lord himself lived and taught, and by that study to gain understanding of and commitment to the truths of the gospel of Jesus Christ.
   b. Expand students' understanding of the religions, cultures, history, archaeology, geography, languages, and politics of the ancient and modern Near East.
   c. Foster research and creative endeavors by BYU faculty, students, and visiting scholars.
   d. Promote understanding with other peoples, cultures, and religious faiths that trace their roots to the Holy Land.
2. To achieve these goals, the Jerusalem Center offers a core curriculum with courses in the Old and New Testament and in the ancient and modern Near East. In addition, the center provides specialized courses in archaeology, geography, history, and culture of the Near East, including language study in Hebrew and Arabic.
3. The Jerusalem Center has marvelous physical facilities on Mount Scopus overlooking the oldest part of the city of Jerusalem. Classrooms, a library, a learning center, auditoriums, student and faculty apartments, a gymnasium and conditioning room, and a cafeteria provide a complete learning environment.

## Academic Program

1. **Calendar and Program Emphasis.** Four programs are offered during the calendar year, scheduled to approximate the Provo campus calendar: fall semester (four-month program), winter semester/spring term (five-month program), spring term (two-month program), and summer term (two-month program).
   a. The fall and winter semester programs are designed for students who are currently enrolled at a college or university seeking their first undergraduate degree. Most of the courses offered are at the upper-division level. Students are encouraged to prepare themselves in advance for this exceptional experience by taking such courses as PlSc 170, Geog 120, Hist 300, 302, Arab 101, Heb 101.
   b. The fall program includes field trips within the Holy Land and to the Sinai. An optional field trip to Egypt or Jordan follows the regular semester.
   c. The winter/spring program includes field trips to Egypt and Jordan in addition to those within the Holy Land and to the Sinai.
   d. The spring and summer term programs are open to students who are currently enrolled in a college or university seeking their first undergraduate degree. Recent high school graduates with the intention of pursuing a degree at a college or university are also eligible to enroll. Both lower- and upper-division survey courses with extensive field study are available. An optional field trip to Egypt or Jordan follows the regular term program.
2. **Predeparture Orientation Course.** This seminar is taken the semester or term before a student's work at the Jerusalem Center.
3. **Curriculum.** The following subject areas are taught at the center:
   a. Biblical Studies: Old Testament and New Testament
   b. Ancient Near Eastern Studies
   c. Modern Near Eastern Studies
   d. Introductory course in either Hebrew or Arabic (required during fall and winter semesters; not offered during spring or summer terms).
   e. Elective courses in biblical studies, ancient and modern Near Eastern Studies, and archaeology as arranged each semester (no elective courses are offered during spring or summer terms).

**Note:** Some courses taken at the Jerusalem Center for Near Eastern Studies may be applied toward degrees in Near Eastern Studies, International Relations, and other majors in the College of Family, Home, and Social Sciences. Students should contact their advisement centers concerning specific degree requirements.

4. **Special Programs Offered Periodically at the Jerusalem Center for Near Eastern Studies.** These programs include intensive modern Arabic, intensive modern Hebrew, and nursing.

## Jerusalem Center

### Undergraduate Courses

Courses offered at the Jerusalem Center are *not* offered on the Provo campus and hence cannot be retaken.

#### Orientation Course

**IAS 201R. Cultural Survey—Middle East.** (1:2:2 ea.).
Jerusalem Center undergraduate studies orientation seminar. Required of all participants before departure.

#### Religion Courses

**RelA 101. Old Testament Survey.** (2:1.5:3)
Survey of Old Testament integrated with extensive field study in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies spring and summer term programs.

**RelA 111. New Testament Survey of the Gospels.** (2:1.5:3)
Survey of New Testament Gospels integrated with extensive field experiences in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies spring and summer term programs.

**RelA 300. Old Testament Studies.** (2:1.5:3) Prerequisite: at least junior standing.
Study of Old Testament integrated with extensive field experiences in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies spring and summer term programs.

**RelA 303. Old Testament Studies.** (3:3:4)
Study of Old Testament integrated with extensive field experiences in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies fall semester and winter/spring programs.

**RelA 310. New Testament Studies of the Gospels.** (2:1.5:3)
Prerequisite: at least junior standing.
Study of New Testament Gospels integrated with extensive field experiences in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies spring and summer term programs.

**RelA 311. New Testament Studies of the Gospels.** (3:2:4)
Study of New Testament Gospels integrated with extensive field experiences in biblical world; leads to understanding, appreciation, and application of scriptural teachings today. Offered as part of Jerusalem Center for Near Eastern Studies fall semester and winter/spring programs.

### Near Eastern Studies Courses

**NES 101R. Topics in Near Eastern Studies.** (1–3:Arr.:Arr. ea.)
Studies based on individual and program needs. Elective credit for major and minor in Near Eastern Studies. Offered at the Jerusalem Center for Near Eastern Studies only.

**NES 136. Introduction to Near Eastern Studies.** (2:2:1)
Survey core course in social science/humanities. Elective credit for major and minor in Near Eastern Studies. Offered (as part of the summer term program) at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**NES 326. Introduction to Near Eastern Studies.** (2:2:1)
Prerequisite: at least junior standing.
Social science/humanities core course. Elective credit for major and minor in Near Eastern Studies. Offered (as part of the summer term program) at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**NES 336. Ancient Near Eastern Studies.** (3:2:4)
Social science/humanities core course emphasizing ancient history extending to Byzantine period. Elective credit for major and minor in Near Eastern Studies. Offered at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**NES 347. (NES-Hist) Arab and Islamic Civilization.** (2:2:1)
Social science/humanities core course covering Arab and Islamic civilization; historical evolution of Middle East to present. Provides overview of modern Palestinian society. Elective credit for major and minor in Near Eastern Studies. Offered at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**NES 349. (NES-Hist) Jewish Civilization.** (2:2:1)
Social science/humanities core course; broad introduction to Jewish self-understanding and history, focusing on relationships among people, faith, and land. Elective credit for major and minor in Near Eastern Studies. Offered at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**NES 398R. Advanced Topics in Near Eastern Studies.** (1–3:Arr.:Arr. ea.)
Studies based on individual and program needs. Elective credit for major and minor in Near Eastern Studies. Also offered at the Jerusalem Center for Near Eastern Studies.

### Language Courses

**Arab 100. Introduction to Arabic.** (1:1.5:0)
Beginning Arabic. Offered at the Jerusalem Center for Near Eastern Studies only.

**Heb 100. Introduction to Hebrew.** (1:1.5:0)
Beginning Hebrew. Offered at the Jerusalem Center for Near Eastern Studies only.

**Heb 313. Readings in the Old Testament.** (4:5:0) W
Readings in the Old Testament in Hebrew. Offered at the Jerusalem Center for Near Eastern Studies only.

**Heb 321. Intermediate Conversation and Media.** (3:3:0) W alt yr.
Prerequisite: Heb 101, 102.
Capitalizing on daily life in Jerusalem to increase speaking, reading, writing, and listening comprehension in modern Hebrew. Offered at the Jerusalem Center for Near Eastern Studies only.

**Heb 411R. Advanced Conversation.** (4:4:4) Prerequisite: Heb 311R or equivalent.
Emphasizes conversation in everyday situations. Students role play various situations in class and then apply their learning in Jerusalem. Offered at the Jerusalem Center for Near Eastern Studies only.

**Heb 421. Readings in the Hebrew Translation of the New Testament.** (4:4:0) Sp alt yr.
Readings in the New Testament in Hebrew translation. Offered at the Jerusalem Center for Near Eastern Studies only.

**Note:** Heb 312 (Hebrew Media), Heb 313, Heb 411R (Advanced Conversation), and Heb 421 are offered in the intensive modern Hebrew program. Arab 312 (Arabic Media) and 411R (Advanced Conversation) are offered in the intensive modern Arabic program. The intensive Hebrew and Arabic programs are offered alternate years during the winter/spring program only.

## Jerusalem Center for Near Eastern Studies Faculty

### Resident Faculty

Brown, S. Kent, Professor of Ancient Scripture (BYU)
Hanson, Kaye, Assistant Professor of Management Communication (BYU)
Goldman, Judy, Instructor of Near Eastern Studies (Jerusalem Center)
Nazzal, Laila, Assistant Professor of Sociology (Jerusalem Center)
Nazzal, Nafez Y., Professor of Near Eastern Studies (Jerusalem Center)
Rosen, David, Adjunct Professor of Near Eastern Studies (Jerusalem Center)

In addition, faculty members on professional development leave from the following academic areas at Brigham Young University are selected for up to one-year teaching appointments at the Jerusalem Center: Religious Education, Near Eastern Studies, History, Political Science, and foreign languages. Faculty members are also selected from the Church Educational System, Ricks College, and BYU–Hawaii. Faculty members are expected to pursue an approved program of research, writing, and travel in addition to teaching courses.

### Special Programs Faculty

Faculty members on professional development leave from Brigham Young University are also selected for teaching appointments in special programs at the Jerusalem Center: Arabic, Hebrew, and nursing.

### Scholars-in-Residence

Selected faculty from Brigham Young University are associated with the Jerusalem Center during a one-semester to one-year stay in Jerusalem through a scholar-in-residence program. Scholars-in-residence can be appointed from a wide range of academic areas at the university.

# David M. Kennedy Center for International Studies

R. Lanier Britsch, Professor of History, Director
237 HRCB, PO Box 24526, (801) 378-3377

Jeffrey F. Ringer, Assistant Director

Valerie Hudson, Professor of Political Science, Director of Graduate Studies and Research

Thomas E. (Ted) Lyon, Professor of Spanish, Director of Undergraduate Studies

Rodney B. Boynton, Director of Study Abroad

College of Family, Home, and Social Sciences Advisement Center (for International Relations)
2254 SFLC, PO Box 26797, (801) 378-3541

College of Humanities Advisement Center (for American Studies, Asian Studies, Canadian Studies, European Studies, Latin American Studies, and Near Eastern Studies)
3078 JKHB, PO Box 26101, (801) 378-4789

## David M. Kennedy Center Advisory Committee Coordinators

American Studies, Neil L. York
Asian Studies, Mark Peterson
Canadian Studies, Earl H. Fry
European Studies, Hans Kelling
International Relations
Latin American Studies
Near Eastern Studies, Paul Hoskisson

## Admission to Degree Program

Some degree programs in this department carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Each of the David M. Kennedy Center programs is designed to create greater sensitivity and understanding of the world in which we live. These programs meet the needs of students interested in liberal education as well as those interested in international careers.

## Career Opportunities

Within the candidate's field of emphasis, courses may be taken to prepare for an international career with business, government, humanitarian agencies, military or civilian intelligence, education, or a variety of other careers that may require international travel, residence, or expertise.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | American Studies |
| BA | Asian Studies |
| BA | Canadian Studies |
| BA | European Studies |
| BA | International Relations |
| BA | Latin American Studies |
| BA | Near Eastern Studies |
| Minors | Ancient Near Eastern Studies |
| | Arab-Islamic Studies |
| | Asian Studies |
| | Canadian Studies |
| | European Studies |
| | International Development |
| | International Relations |
| | Latin American Studies |
| | Jewish Studies |
| | Modern Near Eastern Studies |
| | Multicultural Education (Asian Studies, Latin American Studies, Near Eastern Studies) |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | International and Area Studies |
| MA/MOB | International Development |
| MA/MBA | International Relations |
| MA/MBA | Asian Studies |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. All students majoring in David M. Kennedy Center programs are encouraged to seek a meaningful experience with a foreign culture as part of their academic program. Credit earned while participating in a university-sponsored Study Abroad program, the Washington Seminar, International Field Studies and Internships (IFSI), or other supervised foreign experience may be applied toward major requirements.

   For further information see the director of undergraduate studies. Individual considerations or problems will be referred to the program's advisory committee.

2. Credit applied toward one major program may not also be counted toward a second major or minor, with the exception of language competency credit or certain approved double major tracks. Neither may credit for a minor count as part of the major requirement. See an advisor for details.

3. It is recommended that International and Area Studies majors take the following courses as part of the university religion requirement:

   RelC 344, 350, 351, 355, 356.

4. **International Field Studies and Internships.** The IFSI Office in the David M. Kennedy Center for International Studies is designed to assist students in locating and tailoring an international experience that fits their academic needs. It is a program for serious students who, seeing beyond the academic credit, are ready to give service and make a contribution while preparing for graduate school or a career. A student may earn a variety of credits depending on the length and type of the cross-cultural experience.

   Students have been placed in eastern Europe, western Europe, Asia, south Asia, Africa, Latin America, and the Middle East and have worked in fields relating to their respective areas of study, e.g., anthropology, communications, education, engineering, family sciences, international and area studies, international development, and marketing.

   Students must:

   a. Complete an application (various forms, resumé, letters of recommendation, etc.) and pay the application fee.
   b. Arrange course contracts with faculty and pay tuition.

   Complete information on requirements and placement possibilities can be obtained in the Study Abroad Office (204 HRCB).

5. **Jerusalem Program.** Credit toward completion of the BA and minor elective requirements can be obtained through participation in the Jerusalem Program: 5 hours from NES 336, 347, and 349 and 4 hours of religion for the major; 4 hours from NES 336, 347, and 349 and 2 hours of religion for the minor. Other courses taken in Jerusalem must be evaluated individually before credit can be applied to the major.

6. **Study Abroad.** Study Abroad programs are open to students from all university majors. Students need not be formally admitted to BYU to participate in Study Abroad, and BYU credit may be transferred to their home institution.

   In these programs students are able to further their General Education; pursue specialized courses in languages, the social sciences, humanities, fine arts, and other fields; gain valuable insights into their own country; and further international understanding.

   Semester and/or term programs are offered in Chile, Moscow, London, and Vienna. Term programs are also scheduled regularly in Asia, Europe, Mexico, and Africa. These programs feature intensive studies in such disciplines as the arts, history, government, and language. Specialized study in other fields, such as genealogy or design, may also be offered. For information about Jerusalem, see Travel Study.

   **Credit.** All credit for Study Abroad programs is placed on the student's official transcript and calculated in the GPA. Students earn from 12 to 18 credit hours on a semester program and from 6 to 9 credit hours on a term program.

   **Note:** Some university departments accept Study Abroad course credits toward their major. Several Study Abroad courses fill GE requirements in Arts and Sciences or the Foreign Language or Mathematics option. See the list of approved courses in the General Education section of this catalog or the current class schedule and counsel with the directors regarding specific courses.

**Requirements**

1. Preparation: Students are encouraged to prepare themselves in advance for this international experience. Such preparatory courses would include one year of college German for the Vienna Program and Hist 111, Hum 101, and Engl 250 for the London Program.

2. Curriculum: Each program requires all participants to be full-time students. Courses for each program vary according to the sponsoring department and expertise of faculty directors. Students may expect courses in the following areas:
   a. RelC 350: LDS Church in a World Setting.
   b. Foreign Language: Beginning, intermediate, and selected advanced courses including the GE capstone course 202 on selected programs.
   c. History of Civilization: GE courses 201 and/or 202 depending on faculty from English, History, Humanities, Music, and Political Science Departments.
   d. Arts and Letters electives for GE: Courses in art, English, fine arts, humanities, foreign literature, music, and theatre and film.
   e. Social and Behavioral Science electives for GE: Courses in Eurpoean Studies, history, and political science.

# *American Studies*

## The Discipline

The American Studies major examines the sweep of American experience, society, culture, and civilization from a variety of viewpoints—literature, history, gender, humanities, regions, politics, ethnic groups, geography, art, economics, religion, and folklore—based in core courses designed to examine American experience from a variety of standpoints. Majors are encouraged to develop particular skills in writing, literary criticism, historical research, and social, political, and economic analysis. The program provides not only rich interdisciplinary experience but also exposure to a variety of excellent scholars and teachers.

## Career Opportunities

On graduation, American Studies students are usually qualified to enter graduate and professional schools (for law, MBA, MPA, PhD), government or community service, teaching, or advanced graduate studies in the liberal arts, including American studies, American civilization, American culture, American history, and American literature.

## BA American Studies (45 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Students will complete the Advanced Writing requirement by taking Engl 311, 312, 315, or 316 according to individual academic direction—humanities, social science, or science/law.
3. Majors should begin course work in the major by taking AmSt 303 fall semester of the sophomore or (at latest) junior year.
4. Complete the following prerequisite courses:
   PlSc 110.
   Econ 110.
   Hum 261, 262.
5. Complete the following:
   AmSt 303.
6. Select ten courses from the following:
   AmSt 360, 390R (twice only).
   Art 315, 317.
   Econ 274.
   Engl 336, 358R, 392, 395R, 495.
   Geog 450.
   Hist 250, 371, 380, 382.
   Hum 401R, 404R.
   PlSc 320, 321, 322.

   **Note 1:** Engl 395R, 495, Hum 401R and 404R must be topics in an American subject. Only one of the English and Humanities courses may be taken.

   **Note 2:** Course substitutions may be made only with written, prior permission of the American Studies chair.

   **Note 3:** Students may substitute 3 credit hours of Washington, D.C., seminar credit for one American Studies elective.

*Hours include courses that may fulfill GE or university requirements.

### American Studies (AmSt)

### Undergraduate Courses

**303. Studies in the American Experience.** (3:3:0)
Social and intellectual life in American culture from the colonial period to the present.

**360. Film in American Culture.** (3:3:0)
Selected readings, lectures, and analysis of specific motion pictures as social documents, reflecting different facets of the American experience.

**390R. Topics in American Studies.** (3:3:0 ea.)
Multidisciplinary study of a carefully defined problem in American culture. Topics vary.

# *Asian Studies*

### The Discipline

The Asian Studies major is an interdisciplinary program designed to prepare students for careers and advanced study in the specialized field of Asia not provided by a major in one department. In the program, students acquire working competence in Chinese, Japanese, Korean, or another approved Asian language; a broad knowledge of Asian civilization; and a more specialized knowledge in an academic discipline.

### Career Opportunities

The Asian Studies major is useful to those contemplating careers in academic areas, private industry, or government service. The import-export field and international services are particularly interested in persons who have a strong background in Asian Studies.

### General Information

1. Asian Studies majors are generally encouraged to take a concurrent (double) major, particularly if the bachelor's degree will be a terminal degree. The concurrent major can be in any other area but would be most beneficial in an area leading directly to employment.
2. **Language Double Major.** Within Asian Studies there are tracks complementing majors in Chinese, Japanese, and Korean. Potential language or Asian Studies majors should consider this double major option. See the coordinator for more information. The double major will not be strongly encouraged for those students who will go on to graduate school.

## BA Asian Studies (38–46 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Concurrent registration in a second major is recommended.
3. Complete the following core courses:
   a. Anthr 312.
      Asian 395.
      Hist 341.

      **Note:** Hist 341 and Asian 395 should be taken early in the program.

   b. Select one course from the following:
      Hist 340, 343, 345.
   c. Select two courses from the following:
      Geog 470.
      Hist 350.
      Hum 240.
      PlSc 385.
      RelC 351.
4. Select one of the following Asian language requirements:
   a. Asian language double majors must complete an area track option. (Information available in 237 HRCB.) 12 hours of a second Asian language may replace 12 hours of track option. (See area coordinator.)
   b. Nonlanguage double majors must complete 20 hours of an Asian language (Chinese, Japanese, or Korean). Other languages may be approved.

5. Select three courses (8 hours minimum) from the following:
   Anthr 343.
   Asian 330R, 495, 501R.
   AsLa 342.
   BusM 430.
   Chin 327, 343, 344, 345, 347, 441, 442, 443, 444.
   Econ 230, 257.
   Geog 470.
   Hist 324, 340, 341, 342, 343, 344, 345, 346, 350, 395R.
   Hum 240.
   Japan 343, 344, 345, 353, 441, 443, 444.
   Korea 340, 344R, 345, 441, 443.
   PlSc 353, 354, 384, 385, 391, 399R.
   RelC 351.
   VAHis 490R.

*Hours include courses that may fulfill GE or university requirements.

## Minor Asian Studies (25–26 hours*)

1. Complete the following core courses:
   a. Hist 341.
   b. Select one course from the following:
      Geog 470.
      Hist 340, 343, 345, 350.
      Hum 240.
      PlSc 385.
      RelC 351.
2. Complete 12 hours of a single Asian language.
3. Complete 8 hours of electives from item 5 of the preceding BA Asian Studies major.

*Hours include courses that may fulfill GE or university requirements.

## Minor Multicultural Education (Asian Studies)

**(23–24 hours*)**

1. Select one course from the following:
   Anthr 312.
   Soc 323.
2. Complete the following:
   Hist 341.
3. Select two courses from the following:
   Geog 470.
   Hist 342, 344, 346.
   Hum 240.
   PlSc 353, 354, 384, 385.
   RelC 351.
4. Complete 12 hours of an Asian language.

*Hours include courses that may fulfill GE or university requirements.

## Asian Studies (Asian)

### Undergraduate Courses

**330R. Asian Studies Abroad.** (1–5:Arr.:Arr. ea.)
Preparatory course approved for Asian Seminar (Study Abroad).

**395. Asian Studies Methods Seminar.** (3:3:0) Required of all Asian Studies majors early in the program.
Sources, materials, and methods of research and writing; critical analysis of research project.

**495. Senior Seminar.** (1:1:0)
Learning research and writing skills necessary to prepare and present major senior research paper.

### 500-Level Graduate Course (available to advanced undergraduates)

**501R. Intensive Introduction to Asian Studies for Teachers and Prospective Teachers.** (1–3:Arr.:0 ea.)
Readings, lectures, individual study, and curriculum development; integration for school teachers of Asian Studies into the curriculum of social studies, world history, and geography.

# *Canadian Studies*

## The Discipline

Canadian Studies is an interdisciplinary program that focuses on the Canadian experience from the perspective of literature, languages, political science, history, economics, business, native studies, and other academic fields.

## Career Opportunities

A Canadian Studies major or minor is expected to pursue an additional major. The major or minor graduate is prepared for careers in government, teaching, and a variety of business sectors. Canada is the United States' leading trading, investment, and tourism partner. As a consequence, thousands of U.S. businesses trade with Canada and have over $70 billion invested there. Literally millions of jobs in both the United States and Canada are linked to bilateral trade, investment, and tourism, and some businesses are interested in hiring college graduates with dual Canadian and other disciplinary expertise (such as business, economics, and computer science).

## General Information

1. All majors and minors are encouraged to participate in the Quebec Summer Language Program at Laval University or in other residence programs in Canada.
2. Although not formally required, it is nevertheless strongly recommended that Canadian Studies majors possess a proficiency in French adequate for oral comprehension, speaking, and research in the student's specialized field. The completion of Fren 321 with a grade of B or better or the successful completion of an oral and written examination administered by a member of the Canadian Studies faculty committee will qualify the student for a special certificate of proficiency.

## BA Canadian Studies (30 hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Anthr 317.
   Engl 395R.
   Geog 450.
   PlSc 355, 382.

3. Select 15 hours from the following:
   Fren 439.
   Hist 359, 390R.
   PlSc 399R.

   **Note:** No more than 6 hours from the same discipline will be approved.

## Minor Canadian Studies (18 hours)

Minor courses are selected by the student with the prior approval of the coordinator. The minor should include a core of courses that will enhance the student's postgraduate education options or ability to secure employment.

# *European Studies*

## The Discipline

European Studies offers a liberal arts education for those who wish to enhance their understanding and appreciation of European cultures. The major consists of two sections: the core that lays the foundation, and electives through which the student can focus on Europe through a particular country or historical period.

## Career Opportunities

Many excellent career opportunities exist for European Studies graduates. The program offers a broad, general preparation in the liberal arts, preparing graduates well for careers in government, private industry, nonprofit organizations, some domestic and foreign teaching opportunities, the Peace Corps, the military, or just about any segment of society that requires its workers to think, read, and write critically. In the past, students have gone on to careers in law, medicine, business, journalism, editing, and advertising.

## General Information

1. Students are encouraged to take a double major (or at least a strong minor in a single academic discipline) so that they may enhance their career objectives. A second major in art, economics, business management, agriculture, a foreign language, etc., enhances the graduate's job marketability.
2. **Language Double Major.** Within European Studies there are double major tracks complementing majors in German, French, and Russian. Potential language or European Studies majors should consider this double major option. See the coordinator of European Studies for more information.
3. **Study Abroad.** Many hours earned in the European Study Abroad programs may be applied toward a European Studies major or minor.

## BA European Studies (45–58 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete these core prerequisites:
   a. Complete the following:
      **Either** Hist 201, 202
      **Or** Hum 201, 202.
   b. Select one course from the following:
      Anthr 305.
      CLit 310.
      Econ 280.
      Engl 251, 351.
      Hist 200.
      Hum 350, 403.
      Phil 205.
      PlSc 200.
      Soc 300.
      VAHis 300.
3. Complete these core courses:
   a. Complete the following:
      Anthr 312.
      Geog 460.
      Hist 323.
   b. Select one ancient or medieval course from the following:
      Hist 304, 307, 310, 311.
      Hum 401R, 404R, 405R (ancient or medieval European subject).
      Phil 201.
      VAHis 304, 306, 307, 310, 320, 325.
   c. Select one modern course from the following:
      Econ 215, 241, 273.
      Engl 338.
      Hist 312, 315, 319, 320, 322, 323.
      Hum 401R, 402R, 404R, 405R (modern European subject).
      Music 395.
      Phil 202, 340, 418.
      PlSc 347, 351, 356.
      VAHis 330, 340, 350.
4. Complete four elective courses (12 hours)(may be in an area of specialization, e.g., discipline, period, or country) from an approved list (see your advisement center).
5. Complete the GE Foreign Language requirement in a modern European language.
6. Complete two literature or culture courses (6 hours) taught in a major European language (not your native language).

*Hours include courses that may fulfill GE or university requirements.

## Minor European Studies (21–38 hours)

1. No D credit is allowed in minor courses.
2. Complete one of the following History of Civilization sequences for GE:
   **Either** Hist 201, 202.
   **Or** Hum 201, 202.
3. Complete the core (12 hours): same as the major above except delete Anthr 312.
4. Complete the electives (6 hours): two courses from the approved list (see your college advisement center).
5. Complete the GE Foreign Language requirement in a modern European language.

*Hours include courses that may fulfill GE or university requirements.

## European Studies (Europ)

### Undergraduate Course

**336R. European Studies.** (1–6:Arr.:Arr.ea.)
Social sciences core course approved for Study Abroad programs in London, Vienna, Paris, and other locations.

## International and Area Studies (IAS)

### Undergraduate Courses

**199R. International Internship.** (1–3:Arr.:Arr. ea.)
Nonsupervised undergraduate foreign internship.

**201R. Cultural Survey.** (1–4:2:2 ea.) Prerequisite: performing group, International Intern, or Study Abroad participant status.
Multidisciplinary survey of various countries and regions in preparation for extended experience abroad.

**220. Introduction to Development Studies.** (3:3:0) F
Exploration of international development in non-formal education, micro-enterprises, community organizations; hunger, poverty, and other special problems in developing areas of the world.

**301. Kennedy Center Lecture Series.** (1:1:0)
Weekly lectures by national and international authorities on world affairs; designed as an introductory class for all Kennedy Center majors.

**351R. Model United Nations Preparation.** (1–3:Arr.:0 ea.)
Preparation for participating in MUN projects, on campus, in public schools, and at the United Nations in New York.

**352R. Icons—Diplomatic Negotiation.** (1–3:Arr.:0 ea.)
Use of computers to simulate international negotiations with other universities.

**353R. International Outreach Preparation.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Through lectures and rigorous readings, developing abilities to prepare and share international understanding in public and private schools.

**355R. Preparation of IAS Student Journal.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Preparing all phases of the student journal published by the Kennedy Center.

**395R. International Careers and Service.** (1–3:Arr.:0 ea.) Prerequisite: major or minor leading to international professional or voluntary service. Recommended: some international or area experience.
Explorations of world careers and service, international networking; extensive readings; lectures; workshops with specialists.

**397R. Topics in International and Area Studies.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Study relating to current world problems.

**399R. International Internship.** (1–9:Arr.:Arr. ea.) Prerequisite: acceptance into program.
Individualized work or volunteer experience in an international setting. Class must be coordinated through Study Abroad.

**†International Relations 499R. Seminar in International and Area Studies. (1:1:0 ea.)**

**490. Senior Seminar in International Development.** (3:3:0) W Prerequisite: IAS 220.
Integration of knowledge and experience from previous coursework and internship activity. Students will discuss and analyze their learning experience and then complete a major research paper.

### 500-Level Graduate Courses (available to advanced undergraduates)

**501R. Graduate Colloquium.** (1:1:0 ea.)
Methodologies and reading. Preparation for writing competency requirements and research paper presentation. Required of all International and Area Studies master's candidates.

**599R. International Internship.** (1–9:0:Arr. ea.)
Professional-level internship in an international setting. Class must be coordinated through Study Abroad.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# *International Development*

## The Discipline

International development is the study of basic human needs in developing areas or countries. It includes academic disciplines such as: formal and nonformal education and literacy, primary health care, small business activities, water sanitation, agricultural productivity, nutrition, ecological preservation, etc. Development obviously implies the application of this study to practical ends throughout the "underdeveloped" world.

On the BYU campus there are at least 50 faculty engaged in either teaching or applied research related to international development. These faculty are located in departments as varied as range science, microbiology, business administration, sociology, political science, nursing, anthropology, and many others. Because international development studies are by definition multi-faceted and interdisciplinary, breadth is natural and desirable. A distinguished faculty from such a wide range of fields engaged in development related research and teaching represents a tremendous resource to students, the university, and the world.

A minor in international development fills an increasing need among students for education about development issues—a need felt by many of the 900 students on campus who have international area majors, as well as many returned missionaries from the developing world, and by increasing numbers of committed international students. Such a minor provides useful insights into the students' chosen discipline. It also allows students and faculty with interests in development a greater opportunity to interact and coordinate efforts.

Students should join a solid preparation in an established major with classroom knowledge and experience in international development. This minor is designed to strengthen and expand the chosen major. Students will be assigned a faculty mentor in their major department who will help coordinate the minor with the major. In addition to a focussed course of study, internship experience is highly encouraged. Such internships provide valuable experience in application of development theory as well as allowing students to earn credit towards the minor (and in some cases the major as well).

## Minor International Development (18 hours*)

**Minor Requirements**

1. No D credit is allowed in minor courses.
2. Complete 3 hours of the following:
   IAS 220.

3. After consulting with an advisor, select 12 hours from the following:
   Anthr 305, 312, 420, 432, 433.
   Botny 250, 350, 400, 407, 554.
   Comms 482.
   Econ 230, 241, 257, 410, 430, 440.
   FSN 424, 435.
   Geog 302, 310, 331, 341, 410, 515, 580.
   Geol 404.
   Hlth 436, 451, 480.
   IAS 390R, 397R.
   BusM 430, 431, 432, 483.
   OrgB 333, 367R, 531, 551.
   PMgt 385.
   PlSc 340, 342, 348, 358, 372, 535, 536.
   Soc 315, 324, 335, 345, 429, 530.
4. Complete 3 hours of the following:
   IAS 490.

**Recommended Course:**
IAS 399R.

*Hours include courses that may fulfill GE or university requirements.

# *International Relations*

## The Discipline

The international relations major is a multidisciplinary program designed to familiarize students with politics, economics, history, and geography, as well as to develop cultural sensitivity. Students must be able to integrate information about international issues from diverse academic disciplines such as anthropology, sociology, business, languages, and intercultural studies.

## Career Opportunities

International relations prepares students for a number of careers in both the public and private sector as well as for graduate study in international affairs and advanced professional degrees (law, MBA, etc.).

Many excellent career opportunities exist for those who prepare themselves well in international relations. Graduates gain a broad, general preparation in the liberal arts and find themselves well prepared for careers in government, private industry, not-for-profit organizations, some domestic and foreign teaching-career opportunities in the Peace Corps, the military, or just about any segment of society that demands employees who think, read, and write critically. In the past, graduates have entered careers in law, medicine, business, journalism, editing, and advertising.

## General Information

Students anticipating a professional or graduate program should consult with the advisement center for recommended courses to strengthen their qualifications for professional or graduate studies.

As a general policy, a semester program in cooperative education (international internships) will be worth up to 6 credit hours toward electives, and a term program will be worth 3. On a case-by-case basis, a student may petition for additional credit. Prior approval must be obtained from the director of undergraduate studies.

## BA International Relations (46–61 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following prerequisite courses:
   Econ 110.
   Geog 120.
   PlSc 170, 200.

   **Note:** These courses must be completed before any other required courses. Their average GPA must be at least 2.7, with no grade lower than a C–. Each course may be repeated once.
3. Complete the following:
   Anthr 312.
   PlSc 370.
   IAS 301.
   RelC 351.
4. Select one course from the following:
   Econ 257.
   PlSc 372.
   BusM 430.
5. Select one course from the following:
   Hist 374.
   PlSc 376.
6. Complete 15 hours of elective courses (five courses) from an approved list (see advisement center). Courses must be in an area studies or issue area "track" (e.g., European Studies, international development, international trade and finance, foreign policy analysis, etc.). A list of suggested tracks is available in 237 HRCB; students should consult with the international relations advisor regarding the creation of their own unique track.
7. Complete a fifth-semester course (in grammar, literature, or composition) or the equivalent in a foreign language.

*Hours include courses that may fulfill GE or university requirements.

## Minor International Relations (15 hours)

1. Complete the following required courses:
   PlSc 170, 370.
2. Select 9 hours of elective courses from an approved list (see advisement center).

# *Latin American Studies*

## The Discipline

Designed to give a rich background in the languages, culture, and conditions of Latin America, the Latin American Studies program provides a multidisciplinary approach to university education. Courses from BYU's various academic departments (anthropology, Spanish and Portuguese, political science, sociology, history, etc.) teach skills in perceptive reading, analytical thinking, and clear and forceful writing, as well as provide in-depth understanding of Latin American cultures, languages, and history.

Students are invited to consult with the director of undergraduate studies regarding selection of classes. Familiarity with Spanish or Portuguese is not necessary before entering the program.

## Career Opportunities

Excellent career opportunities exist for those who prepare well in Latin American Studies. The degree offers a broad, general background in the liberal arts, and graduates are well-prepared for careers in government, private industry, nonprofit organizations, some domestic and foreign teaching opportunities, the Peace Corps, the military, and other professions in which an understanding and appreciation of Latin America are required. Many graduates go into law, medicine, business, journalism, editing, advertising, etc. Others have had success in government, such as working for the State Department, immigration, the FBI, and other agencies.

Students are encouraged to take a double major or at least a strong minor in a single academic discipline to enhance their career objectives. The combination of another discipline and Latin American Studies makes the student attractive to employers desiring specific job skills as well as cultural understanding and appreciation.

## General Information

**Foreign Experience.** Latin American Studies students are strongly encouraged to participate in Study Abroad programs in Mexico or Chile, in an internship program somewhere in Latin America, or in department-sponsored research in the area.

## BA Latin American Studies (36 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Anthr 312.
   Geog 455.
   Hist 352.
   LtAm 495.
   PlSc 358.
3. Select one of the following options:
   **Either** Span 321, 355, 451
   **Or** Port 321, 355, 451.
4. Complete the following:
   Anthr 326.
5. Select one course from the following:
   Hist 351, 353, 356, 357, 359.
   Soc 335.
6. Select 6 elective hours from an approved list (see your advisement center).

*Hours include courses that may fulfill GE or university requirements.

## Minor Latin American Studies (18 hours)

1. Select one course from the following:
   Span 321.
   Port 321.
2. Complete 15 hours in courses dealing with Latin American Studies; 9 hours from the list below; 6 hours may come from the list of approved electives used in item 6 of the preceding Latin American Studies major:
   Anthr 312.
   Geog 455.
   Hist 352.
   LtAm 495
   PlSc 358
   Port 355, 451.
   Span 355, 451.

## Minor Multicultural Education (Latin American Studies) (24 hours)

1. Select one course from the following:
   Anthr 312.
   Soc 323.
2. Complete the following:
   Hist 360.
3. Select two courses from the following:
   Anthr 326.
   Geog 455.
   Hist 352, 353, 356, 357, 359.
   PlSc 358.
4. Complete 12 hours of Spanish or Portuguese language.

## Latin American Studies (LtAm)

### Undergraduate Courses

**301. Preparation for Project Work in Latin America.** (1:1:0) Prerequisite: Span 102 and instructor's consent.

Historical, political, and cultural background of the target country(ies); intensive training in individual service specialty.

**302. Project Work in Latin America.** (2:0:0) Prerequisite: LtAm 301.

Teaching literacy, health, nutrition, gardening, leadership development, construction, etc., in Latin America.

**495. Senior Seminar in Latin American Studies.** (3:3:0) Prerequisite: instructor's consent for minors.

Sources, materials, and methods of research and writing; critical analysis of a research project. Required for all Latin American Studies majors their senior year.

# *Near Eastern Studies*

## The Discipline

In addition to language study, the Near Eastern Studies curriculum includes course work from the areas of the social sciences, humanities, and religion. The geographic area covered extends from Egypt to Iran, and from Turkistan to Arabia. The time span reaches from the ancient to the modern period.

## Career Opportunities

The program is intended both to provide a liberal arts education and to prepare students for careers in business, law, government, scholarship, and the Church Seminaries and Institutes of Religion system.

## BA Near Eastern Studies (48 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.

2. Complete the following core requirements:
   Anthr 312.
   Hist 300, 302, 490.
   RelC 355, 356.

   **Note:** Hist 490, with designated seminar sections by Green, Hamblin, or Montgomery only, is to be taken during the senior year after completing the core courses and GE Advanced Writing requirement.
3. Language requirement: complete 16 hours of Arabic or Hebrew. If Hebrew is selected, at least 12 hours must be taken in one aspect of the language (either biblical or modern). This means the student must complete at least one 200-level (or higher) course in the chosen language.
4. Elective courses: Complete 18 hours of courses to be chosen from an approved list (see advisement center). As many as 4 hours of designated religion courses may be taken; additional language study may be counted toward elective requirements.

**Recommended**

Hist 200.
PlSc 200.

*Hours include courses that may fulfill GE or university requirements.

## Minor Ancient Near Eastern Studies (20 hours*)

1. Complete the following:
   Heb 131, 132.
   Hist 300.
2. Select one course from the following:
   Anthr 351, 378.
3. Select 6 hours from the following:
   RelA 301, 302.
   NeLg 340, 345.

*Hours include courses that may fulfill GE or university requirements.

## Minor Modern Near Eastern Studies (20 hours*)

1. Complete 8 hours in Arabic, modern Hebrew, or Turkish.
2. Complete the following:
   Hist 302.
3. Select one course from the following:
   Anthr 340.
   Geog 471.
4. Select two courses from the following:
   PlSc 357, 381, 457.
   Hist 348R.

*Hours include courses that may fulfill GE or university requirements.

## Minor Jewish Studies (22 hours*)

1. Complete 12 hours of Hebrew courses.
2. Complete the following:
   Hist 303.
   RelC 355.
3. Select two courses from the following:
   Hist 318.
   PlSc 457.
   Phil 415 (when treating Jewish philosophy).

*Hours include courses that may fulfill GE or university requirements.

## Minor Arab-Islamic Studies (25 hours*)

1. Complete 12 hours of Arabic courses.
2. Complete the following:
   Hist 302.
   Hum 242.
   RelC 356.
3. Select two courses from the following:
   Hist 348R.
   Phil 415.
   PlSc 452.

*Hours include courses that may fulfill GE or university requirements.

## Minor Multicultural Education (Near Eastern Studies) (23–24 hours*)

1. Select one course from the following:
   Anthr 312.
   Soc 323.
2. Complete the following:
   Hist 302.
3. Select two courses from the following:
   Anthr 340.
   Geog 471.
   Hist 303, 308, 318, 348R.
   Hum 242.
   PlSc 357, 359R.
   RelC 355, 356.
4. Select one of the following options:
   **Either** Heb 101, 102, 201
   **Or** Arab 101, 102, 201.

*Hours include courses that may fulfill GE or university requirements.

## Near Eastern Studies (NES)

### Undergraduate Courses

**101R. Topics in Near Eastern Studies.** (1–3:Arr.:Arr. ea.)
Studies based on individual and program needs. Elective credit for major and minor. Offered at the Jerusalem Center for Near Eastern Studies only.

**136. Introduction to Near Eastern Studies.** (2:2:1)
Survey core course in social science/humanities. Offered (as part of the summer term program) at the Jerusalem Center for Near Eastern Studies only. Elective credit for major and minor.

**326. Introduction to Near Eastern Studies.** (2:2:1) Prerequisite: at least junior class standing.
Social science/humanities core course. Elective credit for major and minor. Offered (as part of the summer term program) at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**336. Ancient Near Eastern Studies.** (3:3:2)
Social science/humanities core course emphasizing ancient history extending to the Byzantine period. Elective credit for major and minor. Offered at the Jerusalem Center for Near Eastern Studies only.

**347. (NES-Hist) Arab and Islamic Civilization.** (2:2:1)
Social science/humanities core course covering Arab and Islamic civilization; historical evolution of Middle East to present. Overview of modern Palestinian society. Elective credit for major and minor in NES. Offered at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**349. (NES-Hist) Jewish Civilization.** (2:2:1)
Social science/humanities core course; broad introduction to Jewish self-understanding and history, focusing on relationships among people, faith, and land. Elective credit for major and minor. Offered at the Jerusalem Center for Near Eastern Studies only. Does not receive GE credit.

**398R. Advanced Topics in Near Eastern Studies.** (1–3:Arr.:Arr. ea.)
Studies based on individual and program needs. Elective credit for major and minor. Also offered at the Jerusalem Center for Near Eastern Studies.

**499R. Special Topics in Near Eastern Studies.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Studies based on individual and program needs.

### 500-Level Graduate Course (available to advanced undergraduates)

**595R. Near East Special Topics.** (1–3:Arr.:0 ea.) Prerequisite: graduate standing and instructor's consent.
Studies based on individual and program needs.

## Korean

See Asian and Near Eastern Languages.

## Latin

See Humanities, Classics, and Comparative Literature.

## Latin American Studies

See Kennedy Center for International Studies, David M.

## J. Reuben Clark Law School

For more information see the current J. Reuben Clark Law School Bulletin and the 1995–96 BYU Graduate Catalog.

## Library and Information Sciences

The School of Library and Information Sciences closed August 31, 1993.

# Linguistics

John S. Robertson, Chair
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College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Linguistics are open enrollment.

## The Discipline

Linguistics is the study of language, its form, history, and acquisition. One who studies linguistics is concerned with how languages are acquired and how languages change over time. One who studies linguistics is less concerned with the literature and culture of the language area than with the sounds, forms, sentence structure, and semantics of the language itself. Linguists are concerned with "universals" of language as well as "uniqueness" in language. For the student who is interested in "how it is said," linguistics is the subject to study.

## Career Opportunities

Linguistics is an excellent preparatory discipline for those planning graduate studies in areas as diverse as TESL, law, international business, tourism, library science, communicative disorders, and speech pathology, not to mention graduate studies in specific languages or in linguistics itself.

A linguistics degree (with emphasis in computers) may lead to jobs in high technology, e.g., machine translation, information retrieval, and speech recognition and production. Linguistics is also recognized as a strong specialization for those pursuing a career in military intelligence.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Linguistics |
| Minors | Linguistics |
| | Language and Computers |
| | TESL |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | Linguistics |
| TESL | Certificate |
| MA | TESL |

For more information see the 1996–97 BYU Graduate Catalog.

## BA Linguistics (44–50 hours*)

### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following courses:
   Ling 230, 330, 420, 430, 450, 490.
3. Complete 12 credit hours of university-level course work in a single non-Indo-European language. Students who are native speakers or are minoring in a non-IE language (see item 3a below) may fill this requirement with any other foreign language by taking classes or by passing a special examination after taking a culminating culture class. Native speakers of non-IE languages may elect to use English to fill this requirement. If they choose to earn the credit by special examination, they must take Engl 230, 232, or Hum 261, or an equivalent class as their culminating culture course. If they choose to earn the credit by taking classes, they must enroll for ESL 301, 303, 304, 404.
4. Select one of the following options:
   a. Complete an approved university minor in one of the following areas: foreign language (cannot be the same one as noted above), TESL, language and computers, or speech pathology.

b. Complete 15 hours selected from any of the courses listed below or approved by the Linguistics Department.
Complete the following:
Ling 260; 362 or 363; 365, 480.
Engl 324, 325, 326.
Anthr 309, 420.
Psych 375, 376.

*Hours include courses that may fulfill GE or university requirements.

## Minor Linguistics (15 hours)

1. Complete the following courses:
Ling 230, 330, 450.
2. Select 6 hours of electives from other Linguistics Department course work in consultation with a department advisor.

## Minor Language and Computers (18 hours)

1. Complete the following:
Ling 230 (prerequisite), 260, 330, 365.
2. Select one of the following:
Ling 362, 363.
3. Select one of the following:
Ling 480, 565R.

## Teaching English As A Second Language (TESL)

### The Discipline

The TESL program exists primarily to prepare teachers of English for speakers of other languages. Related areas of emphasis are administration or materials development. TESL involves multidisciplinary course work, notably in language pedagogy and linguistics, but includes subjects ranging from testing to literature.

### Career Opportunities

TESL graduates are qualified for overseas English teaching or administrative positions. They may enter U.S. TESL programs or bilingual programs, ranging from adult education or junior college positions to special courses for immigrant children offered by school districts. A state teaching certificate qualifying one to teach ESL is available to those who take requisite professional education course work in addition to TESL classes.

### Special Provisions

TESL has been accepted by the Utah Board of Education as an accredited teaching major or minor for secondary education students. BYU TESL courses plus professional course work can lead to a state secondary teaching certificate in ESL. Those students seeking state teacher certification on a secondary level may obtain further information on this option by contacting the Linguistics Department. This option is essential for those planning to teach ESL in U.S. public schools.

## Minor TESL (19 hours)

Complete the following:
Ling 230, 330, 531, 540, 572, 577.

## English As a Second Language (ESL)

### Undergraduate Courses

**Note:** For TESL teacher training courses, see Linguistics in the BYU 1995–96 BYU Graduate Catalog.

**301. English as a Second Language (Structure).** (4:4:1) For bilingual foreign students.
Integrated skills course in listening, speaking, reading, and writing, with grammar focus in each area.

**302. English as a Second Language (Oral-Aural).** (2:2:0) For bilingual foreign students.
Improving listening comprehension and speaking ability. Emphasizes fluency, correct pronunciation, and intonation.

**303. English as a Second Language (Reading).** (3:3:0) For bilingual foreign students.
Improving reading comprehension and reading speed.

**304. English as a Second Language (Writing).** (4:4:1) For bilingual foreign students.
Composition, rhetoric, usage, and mechanics, plus techniques of writing research papers.

**404. ESL Advanced Composition.** (3:3:0)
Research and writing techniques for prethesis work. For graduate ESL students.

## Linguistics (Ling)

### Undergraduate Courses

**98. Basic Academic Computer Skills.** (0:2:0)
Introduction to academic computer skills, focusing on programs for writing student papers (no technical background necessary). Fee.

**101R. Study of an Uncommon Language.** (4:4:0 ea.)
Oceanic, American Indian, African, Haitian Creole, Persian Farsi.

**102R. Study of an Uncommon Language.** (4:4:0 ea.) Prerequisite: Ling 101R or equivalent.
Oceanic, American Indian, African, Haitian Creole, Persian Farsi.

**201R. Second-Year Study of an Uncommon Language.** (4:4:0 ea.) Prerequisite: Ling 101 and 102 or foreign residence experience.
Further development of conversation, reading and writing skills, and vocabulary building, emphasizing reading.

**211R. Second-Year Study of an Uncommon Language.** (2:2:0 ea.) Prerequisite: Ling 201 or foreign residence experience.
Conversation, emphasizing further development of intermediate listening comprehension and speaking skills.

**230. Language, Mind, and the World.** (3:3:0)
The medium that makes thinking, understanding, communications, and teaching possible.

**260. Humanities Computing Survey.**(3:3:0) Prerequisite: Ling 98 or equivalent.
Survey of how computers are used in humanities disciplines: databases, concordances, literary analysis, computer-assisted instruction, writing and publishing, computational linguistics.

**270. Course for Prospective Language Learners.** (3:3:1)
For prospective missionaries and others desiring fundamentals of language learning before selecting a specific language. Principles and strategies for efficient second-language learning; includes minicourse language learning experiences.

**301R. Third-Year Study of an Uncommon Language.** (4:4:0 ea.)
Oceanic, American Indian, African, Haitian Creole, Persian Farsi.

**311R. Third-Year Study of an Uncommon Language.** (2:2:0 ea.) Prerequisite: Ling 211 or foreign residence experience.
Advanced conversation.

**330. Introduction to Linguistics (Modern).** (3:3:0)
Basic understanding of linguistic systems. Morphology, syntax, and phonology.

**362. Computer-Assisted Instruction—Macintosh.** (3:3:0) Prerequisite: Ling 260 or Macintosh experience.
Instructional applications of computer technology in the humanities using Hypercard on Macintosh computers.

**363. Computer-Assisted Instruction—IBM-PC.** (3:3:0) Prerequisite: Ling 260 or IBM-PC experience.
Instructional applications of computer technology in the humanities using ToolBook on IBM-PC and compatible computers.

**365. Computer-Assisted Research.** (3:3:0) Prerequisite: Ling 260 or programming experience.
Applying computer-based techniques to research in language and literature. Includes programming in a procedural language.

**420. Phonetics.** (3:3:0) Prerequisite: Ling 330.
General inventory of speech sounds possible in language, from both an acoustic and articulatory point of view.

**430. Transformational Grammar.** (3:3:0) Prerequisite: Ling 330 or Engl 328.
Goals of linguistic argumentation, syntactic structure, nature of the lexicon, and functions of transformations.

**450. Introduction to Historical- Comparative Linguistics.** (3:3:0) Prerequisite: Ling 330.
Theory and method of language change via comparison of daughter languages and reconstruction of their ancestral language: phonological, morphological, semantic, and lexical.

**480. Problems in Translation.** (3:3:0) Prerequisite: proficiency in a second language.
History, theory, and practice of human and machine translation.

**490. Senior Seminar.** (2:2:0)
Reading and discussing major issues in linguistics.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. Research Prospectus Design.** (1:2:0) Prerequisite: admission to language acquisition MA program or provisional admission to TESL MA program.
Procedures for developing research projects (including introduction and review of literature for MA thesis). Students enroll concurrently for up to 2 hours of Ling 699R (thesis) credit.

**521. Phonology.** (3:3:0) Prerequisite: Ling 330.
Discriminative values of speech sounds: their function in the communicative process. Analysis of phonological data via postulation of underlying forms and derivational rules.

**525. Phonology of Modern English.** (3:3:0)
Detailed phonetic and phonemic study of American English pronunciation, including theories and practices of teaching and acquiring pronunciation. Practicum included.

**531. Grammar Usage.** (3:3:0)
Examining English grammar and usage as they reflect different theories about language description and applying this knowledge in the ESL classroom. Practicum included.

**535. Semantics.** (3:3:0) Prerequisite: Ling 330.
Theory and practice of semantic analysis with special emphasis on Jakobsonian and Peircian semiotics.

**540. Language Acquisition.** (3:3:0) Prerequisite: Ling 330 or equivalent.
First- and second-language acquisition viewed in light of psycholinguistics and sociolinguistics.

**545. Psycholinguistics.** (3:3:0) Prerequisite: Ling 230 or equivalent.
How the mind interprets, stores, retrieves, and produces language. Anatomical structures and physiological processes of the brain dealing with language.

**550. (Ling-Anthr) Sociolinguistics.** (3:3:0)
Research and theory in anthropological linguistics and sociolinguistics.

**551. (Ling-Anthr) Anthropological Linguistics.** (3:3:0)
Language in culture and society: development, typology, and description.

**555. Teaching Culture.** (3:3:0)
What culture is, how it affects language learners and teachers, development of U.S. lifestyle patterns. Variety of readings.

**558. Historical-Comparative Linguistics.** (3:3:0) W, Sp Prerequisite: Ling 450 or equivalent.
Advanced examination of and research in theory and method of language change via comparison of daughter languages and reconstruction of ancestral languages.

**565R. Humanities Computing Project.** (1–3:3:0 ea.) Prerequisite: instructor's consent.
Major application or research project, working with instructor to do ongoing research or program development.

**571. English as a Second Language K–12.** (3:3:0)
Nature of language acquisition and strategies and materials designed to facilitate second language learning K–12.

**572. TESL Reading and Writing.** (3:3:0)
Nature of the processes involved in reading and writing, with special emphasis on helping ESL students develop these skills. Includes a limited teaching practicum.

**573. TESL Literature.** (3:3:0) On dem.
Teaching literature to nonnative English speakers, both TEFL and TESL.

**577. Introduction to ESL Methodology.** (4:4:1) Prerequisite: ESL 404 or native English speaker.
Survey of basic concepts, procedures, and techniques in second language teaching methodology and materials selection. Observation of actual ESL classes and a mentored ESL teaching practicum experience.

**579. TESL Student Teaching.** (2:0:8) Prerequisite: Ling 577 and department's prior consent.

**580R. Problems in Linguistics and Applied Linguistics.** (1–3:3:0 ea.) On dem.
Advanced research in language acquisition, sociolinguistics, psycholinguistics, linguistics field study, applied linguistics.

**590R. Readings in Linguistics.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.
Individual study of current linguistic literature. Occasional discussion sessions with instructor and other class members. Pass/fail grade only.

**599R. Cooperative Education.** (1–9:9:0 ea.) On dem.
On-the-job experience under faculty supervision.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## American Sign Language (ASL)

### Undergraduate Courses

(Available only through Evening Classes.)

**101, 102. Conversation ASL, Parts 1 and 2.** (4:4:1 ea.)
Basic ASL skills, both receptive and expressive. Basic conversation skill, emphasizing vocabulary building and pragmatics. Introduction to deafness and ASL.

**201. ASL Grammar.** (4:4:0)
Basic study of ASL structure and syntax. Beginning transcription.

**202. Advanced ASL Grammar.** (4:4:0) W even yr. Prerequisite: ASL 201.
Advanced ASL structure, including conversational skills.

**301. Deaf Culture.** (3:3:0)
Society and culture of the deaf community. Required course for obtaining language credit by examination.

**302. Deaf Literature.** (3:3:0) W on dem. Prerequisite: ASL 301.
Various genres of deaf literature. Introduction to analysis of ASL literary works.

**431. Interpreting 1.** (4:4:1) Independent Study also.
Building basic interpreting skills. Code of Ethics, interpreting protocol, and interpreting issues.

**432. Interpreting 2.** (4:4:1)
Various interpreting models; the interpreting process; building and applying interpreting skills.

## Austronesian Languages (AstLg)

### Undergraduate Courses

**Note:** Austronesian languages are offered only when there is sufficient student interest.

**Fijian, Indonesian, Maori, Niuean, Rarotongan, Samoan, Tagalog, Tahitian, and Tongan Courses**

**101R, 102R. First-Year.** (4:4:0 ea.)
Basic language skills.

**201R. Second-Year.** (4:4:0 ea.) Prerequisite: 101 and 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: 201 and 211 or equivalent experience.
Advanced conversational skills.

## North, Central, and South American Indian Languages (AmILg and SAmLg)

### Undergraduate Courses

**Note:** American Indian languages are offered only when there is sufficient student interest.

**Navajo, Aymara, Cakchiquel, Quechua, Quiché, Maya, and Guaraní Courses**

**101R, 102R. First-Year.** (4:4:0 ea.)
Basic language skills.

**201R. Second-Year.** (4:4:0 ea.) Prerequisite: 101 and 102 or equivalent experience.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

**211R. Second-Year Conversation.** (2:2:0 ea.) Prerequisite: 102 or equivalent experience.
Intermediate listening comprehension and speaking skills.

**311R. Third-Year Conversation.** (2:2:0 ea.) Prerequisite: 201 and 211 or equivalent experience.
Advanced conversational skills.

## Welsh (Welsh)

### Undergraduate Courses

**101A, B. First-Year Welsh.** (2:2:1 ea.)
Pronunciation, grammar fundamentals, and vocabulary building, emphasizing conversation.

**102. First-Year Welsh.** (4:4:0) Prerequisite: Welsh 101 or equivalent.
Pronunciation, grammar fundamentals, and vocabulary building, emphasizing conversation.

**201. Second-Year Welsh.** (4:4:0) Prerequisite: Welsh 101 and 102 or equivalent.
Conversation, vocabulary building, and reading and writing skills, emphasizing reading.

## Linguistics Faculty

**Professors**

Baird, Rey L. (1961) BA, U. of Utah, 1960; MA, Brigham Young U., 1962; PhD, Indiana U., Bloomington, 1974.
Blair, Robert W. (1959) BA, MA, Brigham Young U., 1955, 1957; PhD, Indiana U., Bloomington, 1964.
Henrichsen, Lynn E. (1992) BA, MA, Brigham Young U., EdD, U. of Hawaii, Manoa, 1987.
Luthy, Melvin J. (1971) BS, Utah State U., 1962; PhD, Indiana U., Bloomington, 1967.
Melby, Alan K. (1977) BS, MA, PhD, Brigham Young U., 1973, 1974, 1976.
Robertson, John S. (1977) BA, MA, Brigham Young U., 1967, 1970; PhD, Harvard U., 1976.

**Senior Lecturer**

Probst, Glen W. (1980) BA, MA, Brigham Young U., 1961, 1966; PhD, Ohio State U., 1969.

**Associate Professors**

Brown, Cheryl (1975) BA, MA, Utah State U., 1967, 1971; TESL Cert., Brigham Young U., 1974; PhD, U. of California, Los Angeles, 1983.
Graham, Charles Ray (1980) BA, MA, Brigham Young U., 1967, 1969; PhD, U. of Texas, Austin, 1977.
Manning, Alan D. (1994) BA, Brigham Young U., 1984; PhD, Louisiana State U., 1988.

**Assistant Professors**

Hallen, Cynthia L. (1991) BA, MA, Brigham Young U., 1980, 1982; PhD, U. of Arizona, 1991.
Scott, Mary Lee (1990) BA, MA, Brigham Young U., 1975, 1980; PhD, U. of California, Los Angeles, 1989.
Shelley, Monte (1976) PhD, Brigham Young U., 1976.
Tanner, Mark W. (1993) BA, U. of Utah, 1982; MA, U. of Southern California, 1985; PhD, U. of Pennsylvania, 1991.

**Assistant Lecturer**
Strong-Krause, Diane (1979) BA, MA, Brigham Young U., 1975, 1976.

**Special Instructors**
Erickson, Dena (1995)BA, MA, Brigham Young U., 1992, 1995.
Garver, Paul (1995) BA, MA, Brigham Young U., 1993, 1995.
Garzola, Yvonne B. (1992) BS, MA, Brigham Young U., 1980, 1994.
Gillie, Jeri Wyn (1994) BA, MA, Brigham Young U., 1990, 1993.
Jones, Dawnell (1995) BA, MA, Brigham Young U., 1990, 1995.

The following are linguists in other departments who frequently teach linguistics courses in their own department or in the Department of Linguistics and who also serve on graduate and other committees for the Linguistics Department.

Baltes, Paul (English)
Belnap, R. Kirk (Asian and Near Eastern Languages)
Bourgerie, Dana (Asian and Near Eastern Languages)
Bush, Charles D. (Humanities Research Center)
Clegg, J. Halvor (Spanish and Portuguese)
Eggington, William G. (English)
Fails, Willis (Spanish and Portuguese)
Hart, David Kay (Germanic and Slavic Languages)
Jones, Randall L. (Germanic and Slavic Languages)
Larson, Jerry W. (Humanities Research Center)
Lund, Randall J. (Germanic and Slavic Languages)
Matthews, Thomas J. (Spanish and Portuguese)
Meredith, R. Alan (Spanish and Portuguese)
Oaks, Dallin D. (English)
Parkinson, Dilworth B. (Asian and Near Eastern Languages)
Russell, Robert A. (Asian and Near Eastern Languages)
Skousen, Royal (English)
Smith, Kim L. (Humanities Research Center)
Smith, Melvin R. (Humanities Research Center)
Turley, Jeffrey S. (Spanish and Portuguese)
Watabe, Masakazu (Asian and Near Eastern Languages)

# Management

## J. Willard and Alice S. Marriott School of Management

Dean: K. Fred Skousen
730 TNRB, PO Box 23113, (801) 378-4121

Associate Dean: Kim S. Cameron
730 TNRB, PO Box 23113, (801) 378-6823

Associate Dean: Gary C. Cornia
730 TNRB, PO Box 23152, (801) 378-6822

Marriott School of Management Advisement Center
460 TNRB, PO Box 23185, (801) 378-4285

### Admission to Degree Program

The degree programs in the Marriott School of Management carry special enrollment limitations. Please see the advisement center for specific details.

### Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

#### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

#### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

#### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

### Undergraduate Programs and Degrees

BS Management
Emphases:
- General Business
- Entrepreneurship
- Finance
- Insurance, Risk Management, and Financial Services
- Management Information Systems
- Managerial Economics
- Marketing
- Operations Management
- Organizational Behavior
- Retailing
- International Coemphasis/Finance
- International Coemphasis/Marketing

Minor Management

For help or information on the undergraduate programs, please see your college advisement center.

For information on accounting degrees, see Accountancy and Information Systems, School of.

### Graduate Programs and Degrees

For more information see the current Marriott School of Management Graduate Bulletin and the 1996–97 BYU Graduate Catalog.

### The Discipline

Courses are designed to create opportunities for students to develop and apply their analytical and decision-making abilities. For this reason, Marriott School of Management programs make extensive use of faculty expertise, case studies, student projects, and internships.

### Career Opportunities

Specific job descriptions are many and varied. Some examples are: banker, financial analyst, credit analyst, real estate broker, financial planner, human resource specialist, employee benefit specialist, personnel officer, business systems consultant/analyst, database manager, programmer, sales representative, account executive, research specialist, marketing analyst, management trainee, buyer, merchandiser, production manager, technical sales person, inventory manager, logistics manager, materials supervisor.

### General Information

Because of the need to control enrollment in management programs, the competition for acceptance is keen. Those choosing to enter these majors should decide early, plan their schedules carefully, be aware of all the requirements, and stay

informed about any changes by checking often with the MSM Advisement Center.

After completing the premanagement courses, students should make formal application to the MSM, usually during their fourth semester. Students interested in either accounting or management as a major must make application for the management major. A separate application to the School of Accountancy and Information Systems is necessary for those seeking an accounting major. Students not accepted into the program should work closely with advisement personnel to select a new major outside the MSM.

Requirements for application are:

1. Cumulative GPA must be at least 2.85 in the premanagement courses, with no more than one repeat for each class. No grade lower than a C– will be acceptable.
2. Demonstrate a knowledge of computer skills, including word processing and spreadsheet analysis.

   Computer proficiency examination. Students may demonstrate word processing and spreadsheet skills with either a passing grade in an equivalent transfer course, or a passing grade on a challenge exam, or a B grade in MCom 98 and ISys 98. Both of these courses are non-credit.

Not every student meeting the minimum requirements is guaranteed acceptance into the undergraduate program.

## Major Requirements For All Management Emphases

1. No more than one D grade will be allowed in MSM upper-division courses.
2. No more than 12 semester hours of upper-division transfer credit will be accepted toward the major and only 6 hours beyond Management Core 1.
3. Students are encouraged to enroll in courses outside the MSM. Only 45 upper-division MSM hours count toward graduation. (In some cases, 48 hours are allowed. Check with the MSM Advisement Center.)
4. Be accepted into the program.
5. Complete the following Premanagement Core courses:
   Math 119.
   Econ 110.
   Stat 221.
   Acc 200.
   ISys 98.
   MCom 98.

   **Note 1:** Premanagement Core courses must be completed, or be concurrently in process of completion, before a student enrolls in Management Core 1 courses.

   **Note 2:** Before registering for Management Core 1 courses, students must complete the "continuance" form in the college advisement center.
6. Complete the following Management Core 1 courses:
   Acc 210, 341.
   BusM 101, 102, 103, 104.
   ISys 301.
   MCom 320.
   PMgt 385.
   **And** select one course from the following:
   ManEc 300, 476.
   **And** select one course from the following:
   ManEc 301, 453, 458.
   **And** select one course from the following:
   BusM 380R, 381R, 382R.

   **Note 1:** Management Core 1 courses must be completed, or be concurrently in process of completion, before a student enrolls in Management Core 2 courses.

   **Note 2:** Before registering for Management Core 2 courses, students must complete the "continuance" form in the college advisement center.
7. Complete the following Management Core 2 courses:
   BusM 301, 341, 361.
   MCom 321.
   OrgB 321.
8. Complete emphasis requirements listed under the individual emphases below.
9. Complete the following:
   BusM 499.

## BS Management: General Business Emphasis (65 hours*)

The general business, or open, emphasis is available to students wishing to design their own program to meet specific goals such as working in a family business or preparing for a graduate program.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Select any four MSM 400-level courses to meet specific student needs.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Entrepreneurship Emphasis (65 hours*)

The entrepreneurship emphasis is designed to acquaint students with the problems commonly encountered when starting, growing, and harvesting business ventures. Emphasis is on the entrepreneurial career and perspective, not on one-shot ventures. Functional topics have already been taught in the function areas and are mentioned in entrepreneurship only when a different perspective is needed.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   BusM 482, 483.
   **And** select one course from the following:
   BusM 401, 413.
   OrgB 531.
   Acc 320.
3. Complete 3 elective hours from upper-division MSM courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Finance Emphasis (65 hours*)

The course work offered in this area is designed, first, to familiarize business students with the elements of financial management and, second, to provide specialized work for those who seek positions of management and executive responsibility in finance. The requirements are flexible enough to allow some

specialization toward commercial banking, business finance, insurance, real estate, investments, or personal financial planning.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   BusM 401, 410.
   **And** select one course from the following:
   BusM 405, 407, 411, 412, 413, 418, 432.
   ManEc 453.
3. Complete 3 elective hours from upper-division MSM courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Insurance, Risk Management, and Financial Services Emphasis (65 hours*)

The insurance, risk management, and financial services emphasis is designed to introduce students to the production, distribution, and use of financial products. The course work in this area will provide a solid foundation for those considering careers in these industries. Through appropriate choice of electives, students will have a solid foundation for achieving professional designations, such as the CLU, ChFC, CEBS, ARM, CPCU, etc., that will greatly enhance opportunities for gaining sales, management, financial product design, benefits and risk management consulting, or other professional positions.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. The insurance, risk management, and financial services lecture series (BusM 382R) is strongly recommended.
3. Complete the following specialization courses:
   BusM 406, 407.
   **And** select two courses from the following:
   BusM 405, 410, 413, 418, 454, Acc 320.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Management Information Systems Emphasis (68 hours*)

The information systems emphasis prepares students for careers in areas such as systems analysis and design, information systems consulting, and information systems management. The courses develop strength in the technical areas of programming, database design, and systems analysis and design. Significant emphasis is given to developing analytic and communications skills, with a focus on business applications. (See School of Accountancy and Information Systems for course descriptions and prerequisites.)

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   ISys 441, 443, 445, 544, 546.

**Recommended Electives**

ISys 542, 548.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Managerial Economics Emphasis (65 hours*)

The emphasis in managerial economics is helpful to those students who have career interests involving economic forecasting, computer applications of managerial modeling, and quantitative analysis of management problems.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   ManEc 487.
   **And** select two courses from the following:
   ManEc 452, 453, 475, 489.

   **Note:** If ManEc 453 is used as an alternative for ManEc 301, it may not be double counted for emphasis selections.
3. Complete 3 elective hours from upper-division MSM courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Marketing Emphasis (65 hours*)

The marketing emphasis is designed to prepare students for marketing management responsibilities, product/brand management, industrial and consumer products sales management, market analysis, and entrepreneurial activities both in the U.S. and abroad.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization course:
   BusM 442.
   **And** select two courses from the following:
   BusM 431, 444, 450, 454, 456, 459.
3. Complete 3 elective hours from upper-division MSM courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Operations Management Emphasis (65 hours*)

Course work is designed for business students whose interests lie in the operations or production area of any business enterprise. Students can prepare for positions in operations or production management, purchasing, quality management, operations research, inventory control, and similar areas. In addition, many of the courses offered in this area will provide an excellent background for those interested in the increasingly important quantitative aspects of finance and marketing.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   BusM 463.
   **And** select two courses from the following:
   BusM 461, 465, 468R.
   Stat 361, 462.
   Hlth 425, 426.
   ManEc 489.
   MFE 340, 480.
   MFET 532, 534.
3. Complete 3 elective hours from upper-division MSM courses.

**Note:** Students electing this option should be aware of prerequisites for some of the courses outside the MSM when planning their program.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Organizational Behavior Emphasis (65 hours*)

Undergraduates with an emphasis in organizational behavior are prepared for entry-level jobs in human resource or personnel departments.

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   OrgB 327, 333.
   **And** select one course from the following:
   OrgB 347, 373, 433, 490R.
3. Complete 3 elective hours from upper-division MSM courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: Retailing Emphasis (65 hours*)

The retailing emphasis is designed to prepare students for positions in retailing management that include merchandising, financial control, sales promotion, personnel, store operations, and electronic data processing. An internship (BusM 599R) in one of the major retail stores throughout the country is required. For additional information, contact the Institute of Retail Management (480 TNRB).

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   BusM 442, 456, 459.
3. Complete the following internship in one of the major retail stores throughout the country (for additional information, contact the Institute of Retail Management, 480 TNRB):
   BusM 496R.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: International Coemphasis/ Finance (68 hours*)

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization courses:
   BusM 401, 410.
   **And** select one course from the following:
   BusM 405, 407, 411, 412, 413, 418.
   **And** complete the following:
   BusM 430, 432.

**Recommended**

Second language competency.

*Hours include courses that may fulfill GE or university requirements.

## BS Management: International Coemphasis/ Marketing (68 hours*)

**Emphasis Requirements**

1. Complete the major requirements listed above.
2. Complete the following specialization course:
   BusM 442.
   **And** select two courses from the following:
   BusM 444, 450, 454, 456, 459.
   **And** complete the following:
   BusM 430, 431.

**Recommended**

Second language competency.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Management and University Honors

For more information on this degree program, see the college advisement center.

See also the University Honors Education section of this catalog.

## Minor Management (22–23 hours*)

1. Complete the following prerequisite courses:
   Acc 200 or 201.
   Econ 110.
   Math 110.
   Stat 221or 222.

   **Note:** students should complete prerequisite courses before taking functional courses.
2. Complete the following MSM functional courses:
   OrgB 320.
   BusM 300, 340.
   **And** select one course from the following:
   BusM 380R, 381R, 382R.
3. No grade below C– will be counted toward the minor.
4. No more than one transfer class will be accepted as a substitute for OrgB 320, BusM 300, 340.

*Hours include courses that may fulfill GE or university requirements.

# Institute of Business Management

Ned C. Hill, Director
660-A TNRB, (801) 378-2407

**Accessibility of Business Management Courses**

1. BusM 200-level courses are open to all students.
2. BusM 300, 340, 380R, 381R, 382R, and 430 are open to all students. All other BusM 300-level courses are closed except to students who have been formally accepted into the Marriott School of Management or the School of Accountancy and Information Systems or who have written approval from the director of the institute or the associate dean.
3. Non-MSM students may take 400-level courses for which they have proper prerequisites and the director's written permission.

## Business Management (BusM)

### Undergraduate Courses

**101. Readings for Managers.** (0.5:0:0)
Readings in literature; discussions with management faculty. Upon acceptance to the MSM students must enroll for BusM 101. See advisement center for details.

**102. Readings for Managers.** (0.5:0:0) Prerequisite: BusM 101.
Readings in literature. Second course of readings series; discussions with management faculty. See advisement center for details.

**103. Readings for Managers.** (0.5:0:0) Prerequisite: BusM 102.
Readings in literature. Third course of readings series; discussions with management faculty. See advisement center for details.

**104. Readings for Managers.** (0.5:0:0) Prerequisite: BusM 103.
Readings in literature. Fourth course of readings series; discussions with management faculty. See advisement center for details.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: consent of both department associate director and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**200. Personal Finance.** (2:2:0) Independent Study also.
Practical course in money management and utilizing savings.

**210. Introduction to Investments.** (3:3:0)
Security markets, selection of stocks for a portfolio, and basic investment analysis. For nonmajors.

**256. Introduction to Retailing.** (3:3:0)
Retail store operation, considering executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities. For nonmajors.

**300. Financial Management.** (3:3:0) Prerequisite: Acc 200 or equivalent.
For nonmanagement majors; emphasizes financial statement analysis, financial planning, sources of financing, working capital management, risk and return, and valuation.

**301. Financial Management.** (3:3:0) Independent Study also. Prerequisite: Premanagement and Management cores and full acceptance into a Marriott School of Management upper-division major. Non-MSM majors must obtain special approval from associate director.
Financial management from the viewpoint of the business manager emphasizing profitability, liquidity, and long-range financial planning.

**340. Marketing Management.** (3:3:0)
For nonmanagement majors. Emphasizes marketing's role in society and the firm, marketing opportunities, the consumer market, and management of the marketing mix.

**341. Marketing Management.** (3:3:0) Independent Study also. Prerequisite: Premanagement and Management I cores and full acceptance into a Marriott School of Management upper-division major. Non-MSM majors must obtain special approval from associate director.
Market segmentation, product service, promotion, channel, pricing strategies. Marketing principles in consumer and industrial markets, profit and nonprofit organizations, domestic and international companies, and small and large firms.

**360. Operations Management.** (3:3:0)
For nonmanagement majors. Overview of the operations area including planning, scheduling, inventory management, quality control, and internal flow of manufacturing information.

**361. Operations Management.** (3:3:0) Prerequisite: Premanagement and Management 1 cores and full acceptance into a Marriott School of Management upper-division major.
Non-MSM majors must obtain special approval from the director of the Institute of Business Management. Overview of operations manager's decision areas. Designing, controlling, and managing production and delivery of product or service to the customer.

**380R. Executive Lectures.** (1:1:0 ea.)
Lectures by top executives on subjects significant to executive leadership.

**381R. Entrepreneur Lectures.** (1:1:0 ea.)
Lectures by successful entrepreneurs on subjects significant to entrepreneur-type opportunities.

**382R. Executive Lectures.** (1:1:0 ea.)
Special topics.

**399R. Cooperative Education.** (3:0:0 ea.) Prerequisite: departmental approval.
On-the-job experience, including internships. Not eligible for an emphasis elective.

**401. Advanced Financial Management.** (3:3:0) Prerequisite: BusM 301.
Capital budgeting, cost of capital, capital structure/dividends, mergers and acquisitions, and current financial problems.

**405. Management of Financial Institutions.** (3:3:0) Prerequisite: BusM 301.
Management problems of commercial bank and nonbank financial institutions, emphasizing balance sheet management, regulation, and the process of intermediation.

**406. Principles of Risk and Insurance.** (3:3:0)
The process of identifying, measuring, and dealing with personal risk. Introduction to property/casualty as well as life and health insurance issues and products.

**407. Risk Management.** (3:3:0) F, W Prerequisite: BusM 301.
Management of risk exposures in a business setting. The process of identifying, measuring, and dealing with risk. Coverage includes both traditional insurable risks and financial risks.

**410. Investments.** (3:3:0) Prerequisite: BusM 301.
Security markets, security analysis, and portfolio management.

**411. Advanced Investments.** (3:3:0) Prerequisite: BusM 301, 410.
Current investment literature, efficient markets, modern portfolio theory, capital assets pricing, options pricing theory.

**412. Intermediate Financial Accounting.** (3:3:0) Prerequisite: acceptance to the management major.
Financial accounting for management majors; review of major topics on balance sheet and income statement.

**413. Real Estate Administration.** (3:3:0) Prerequisite: BusM 301.
Principles of property investments: determining value, financing arrangements, and marketing and management problems.

**418. Financial Planning.** (3:3:0)
Recommended: BusM 407, 410, 413, 416, Acc 320 (may be taken concurrently if necessary). Applying financial principles to household decision making, stressing integration between areas. Income tax and estate planning, retirement, investments, portfolio management, and risk management.

**430. Introduction to International Business.** (3:3:0) Prerequisite: PMgt 385 for business majors.
Complexities confronting U.S. firms and their management in international environments. Emphasizes functional and planning areas, including organization, market research, financial analysis.

**431. International Marketing.** (3:3:0) Prerequisite: BusM 341, 430.
International market entry strategies, export marketing, joint ventures, and other market entry modes. Regional/National markets; cultural, political, legal environments. Negotiations, trade financing, marketing mix.

**432. International Corporate Finance.** (3:3:0) Prerequisite: BusM 301, 430.
Financial aspects of multinational corporations operating within an international environment; direct foreign investment, foreign exchange regulations, capital markets, etc.

**442. Marketing Research.** (3:3:0) Prerequisite: BusM 341.
Concepts and methodology for conducting marketing research. Emphasis on solving problems faced by the marketing manager. Consulting research project required.

**444. Consumer Behavior.** (3:3:0) Prerequisite: BusM 341.
Mental and emotional processes and physical actions that people engage in when selecting, purchasing, using, and discarding products and services to satisfy consumer needs and desires.

**450. Industrial Marketing and Procurement.** (3:3:0) Prerequisite: BusM 341.
Buying strategies, market opportunities, product strategies, channel system relations, and pricing of industrial products and services. Intensive negotiations experience gained in class.

**454. Professional Selling and Sales Management.** (3:3:0) Prerequisite: BusM 341.
Concepts of professional selling and sales management including personal selling skills; strategic role of personal selling; organizing, directing, controlling, and evaluating the sales force.

**455. Promotion Management** (3:3:0) Prerequisite: BusM 341.
Strategies in promoting business and nonbusiness products, services, and institutions, including the role of promotion, target selection, media and copy decisions, and marketing research.

**456. Retailing Management.** (3:3:0) Prerequisite: BusM 341 (340 for nonmajors).
Selection, location, and management of retail stores and systems, emphasizing profitability and integration of accounting, finance, and economic concepts and tools.

**458R. Seminar in Marketing Management.** (3:3:0 ea.) Prerequisite: BusM 341.
Selected marketing issues, quantitative techniques and forecasting, advertising management, and industrial management.

**459. Marketing Strategy.** (3:3:0) Prerequisite: BusM 301, 341, 442.
Integration of finance, marketing, and case studies in economic concepts and techniques in marketing decision making and planning.

**461. Advanced Operations Analysis.** (3:3:0) Prerequisite: BusM 361.
Operations research and management science techniques as a managerial aid to decision making under certainty and uncertainty.

**463. Total Quality Management.** (3:3:0) Prerequisite: BusM 361.
Concepts of quality management including philosophies; use of tools such as SPC, acceptance sampling, mistake proofing devices, and QFD. Strategic implications of quality management decisions.

**465. Contemporary Issues in Production and Inventory Management.** (3:3:0) Prerequisite: BusM 361.
Information flow, required feedback, and control associated with managing productive capacity. Developing proper inventory and productive capacities in manufacturing and nonmanufacturing environments.

**468R. Selected Topics in Operations and Systems Analysis.** (3:3:0 ea.) Prerequisite: BusM 361, 461.

**482. New Enterprise Management.** (3:3:0) Prerequisite: BusM 301, 341, 361, OrgB 321.
Concepts and skills of entrepreneurship. Application of functional tools to case situations.

**483. Entrepreneurship.** (3:3:0)
General topics in entrepreneurship.

**490R. Topics in Business Management.** (3:3:0 ea.) Prerequisite: completion of department core courses.

**496R. Cooperative Education: Retailing Internship.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: Institute of Retail Management director's consent.

**499. Business Policy.** (3:3:0) Prerequisite: BusM 301, 341, 361, OrgB 321. Required last semester before graduation.
Determining long-range objectives in the business firm and developing sound and consistent strategic policies to achieve these objectives.

## Institute of Business Management Faculty

**Professors**

Adolphson, Donald L. (1980) BA, U. of California, Berkeley, 1966; MS, PhD, U. of Wisconsin, Madison, 1968, 1973.

Andrus, Roman R. (1976) BS, Brigham Young U., 1958; MS, PhD, Columbia U., 1959, 1965.

Call, Ivan T. (1963) BS, Brigham Young U., 1958; MBA, DBA, Indiana U., Bloomington, 1959, 1969.

Daines, Robert H. (1959) BS, Utah State U., 1956; MBA, Stanford U., 1959; DBA, Indiana U., Bloomington, 1966.

Geurts, Michael D. (1975) BS, MBA, U. of Utah, 1963, 1965; PhD, U. of Oregon, 1972.

Giauque, William C. (1977) MBA, DBA, Harvard U., 1968, 1972; BS, California Inst. of Technology, 1963.

Heaton, Hal B. (1982) BS, MBA, Brigham Young U., 1975, 1977; MA, PhD, Stanford U., 1978, 1982.

Hill, Ned C. (1987) BS, U. of Utah, 1969; MS, PhD, Cornell U., 1971, 1976.

Hunt, H. Keith (1975) BS, MBA, U. of Utah, 1961, 1962; PhD, Northwestern U., 1972.

McKinnon, Gary F. (1969) BS, MBA, U. of Utah, 1962, 1963; PhD, U. of Texas, Austin, 1968.
Pinegar, J. Michael (1988) BA, Brigham Young U., 1973; MBA, PhD, U. of Utah, 1979, 1982.
Schill, Ronald Lynn (1971) BS, MBA, U. of Utah, 1962, 1963; PhD, U. of Oregon, 1971.
Smith, Scott M. (1981) BS, Brigham Young U., 1971; MBA, Michigan State U., 1973; PhD, Pennsylvania State U., 1979.
Stone, Bernell K. (1986) BS, Duke U., 1964; MS, U. of Wisconsin, 1966; PhD, Massachusetts Inst. of Technology, 1968.
Swinyard, William R. (1978) BS, Brigham Young U., 1965; MBA, U. of Michigan, 1967; PhD, Stanford U., 1976.

**Associate Professors**
Cox, Charles M. (1965) BS, Brigham Young U., 1955; MBA, Harvard U., 1961; PhD, U. of Washington, 1978.
Jackson, W. Burke (1973) BS, Yale U., 1963; MBA, Rutgers U., 1964; MS, PhD, Stanford U., 1968, 1978.
Lambert, William R. (1962) BS, U. of Utah, 1953; MBA, Harvard U., 1962; DBA, Indiana U., Bloomington, 1968.
Lee, Terry Nels (1970) BS, U. of Utah, 1963; MBA, Brigham Young U., 1966; PhD, U. of Washington, 1973.
McQueen, Grant R. (1989) BA, MBA, Brigham Young U., 1981, 1984; PhD, U. of Washington, 1989.
Plenert, Gerhard J. (1990) BA, MBA, California State U., Sacramento, 1970, 1983; PhD, Colorado School of Mines, 1987.
Rhoads, Gary K. (1992) BS, MBA, Idaho State U., 1978, 1982; PhD, Texas Tech. U., 1988.
Sawaya, William J., Jr. (1978) BS, U. of Wyoming, 1967; MS, PhD, Arizona State U., 1969, 1971.
Swenson, Michael J. (1989) BS, Brigham Young U., 1980; MBA, U. of Utah, 1981; PhD, U. of Oregon, 1989.
Wilson, Brent D. (1982) BA, Weber State Coll., 1969; MBA, Northwestern U., 1971; DBA, Harvard U., 1979.

**Assistant Professors**
Merrill, Craig B. (1993) BA, Brigham Young U., 1989; MA, PhD, U. of Pennsylvania, 1992, 1994.
Seawright, Kristie W. (1993) BS, Brigham Young U., 1977; BS, MBA, PhD, U. of Utah, 1987, 1989, 1993.
Thorley, Steven R. (1991) BS, MBA, Brigham Young U., 1979, 1982; PhD, U. of Washington, 1991.
Whitlark, David B. (1989) BA, U. of Utah, 1978; MBA, Cornell U., 1985; PhD, U. of Virginia, 1988.

**Adjunct Associate Professors**
Jenkins, James (1979) BS, MS, Brigham Young U., 1965, 1967; MS, PhD, Purdue U., 1970, 1975.
Wooley, Kenneth M. (1979) BA, Brigham Young U., 1969; MBA, PhD, Stanford U., 1971, 1972.

**Instructors**
Murray, Robert B. (1985) BS, Utah State U., 1951; MBA, Harvard U., 1957.
Pearce, Wayne E. (1982) BS, MBA, U. of Utah, 1960, 1961.

**Emeriti**
Christensen, Edward L. (1953) BS, MS, PhD, U. of Utah, 1938, 1939, 1953.
Oaks, Clinton L. (1957) BA, Brigham Young U., 1948; MBA, PhD, Stanford U., 1950, 1955.
Smith, Milton E. (1966) BA, MBA, PhD, U. of Utah, 1951, 1961, 1981.
Taylor, Weldon J. (1937) BS, Brigham Young U., 1934; MBA, Harvard U., 1937; PhD, New York U., 1955.

## Institute of Retail Management

William R. Swinyard, Director
480 TNRB, PO Box 23005, (801) 378-2953

The Institute of Retail Management offers a retailing emphasis through the Institute of Business Management. It also sponsors the Fred G. Meyer Chair of Retailing, established to enhance understanding and advancement of the industry and to promote successful business principles. Goals of the institute include:

1. Increase the quantity and quality of young people entering the retail field, reduce the time required for a new trainee to become an effective part of the management team, and reduce the turnover rate among management trainees.
2. Produce research that meets the demands of technological and management progress in retailing.
3. Produce workshops and seminars on and off campus to assist in meeting the needs of retail management and increasing the students' understanding of current management problems as well as long-range social issues.

The Institute of Retail Management places a large number of students in internship programs in leading retail companies across the United States. Internships, scholarships, and assistantships are available to students in eight different majors.

## Master of Business Administration

See the current Marriott School of Management Graduate Bulletin, available from the Marriott School of Management, 730 TNRB, PO Box 23185, Brigham Young University, Provo, UT 84602.

Summary information is also included in the 1996–97 BYU Graduate Catalog.

## Engineering/Technology Management Degree Programs

See the BYU Marriott School of Management Graduate Catalog and the College of Engineering and Technology Advisement Center.

## Management Communication

Paul R. Timm, Chair
590 TNRB, PO Box 23041, (801) 378-4081

### Management Communication (MCom)

### Undergraduate Courses

**320. Written Business Communication.** (3:3:1) Honors also. Independent Study also. Prerequisite: Engl 115. To be taken before senior year. Not for freshmen.

Includes case analysis and problem solving. Fulfills Advanced Writing requirement for General Education.

**321. Oral Business Communication.** (1:1:2) Prerequisite: acceptance into the Marriott School of Management.
Theory and practice, including experience in instructional, sales, and persuasive business presentations. Presentations will be videotaped.

**420. Desktop Publishing and Document Design.** (3:3:0) F, W Prerequisite: MCom 320 or Advanced Writing requirement.
Applying desktop publishing systems and document design principles in creating communications for business.

**490R. Special Topics in Management Communication.** (1–3:Arr.:Arr. ea.) Prerequisite: MCom 320, 321.
Special subjects as announced before each semester.

## Graduate Courses

The Department of Management Communication does not offer a graduate degree. It offers one graduate course plus other courses included in the MBA, MAcc, and MPA listings. See the 1996–97 BYU Graduate Catalog.

## Management Communication Faculty

**Professors**
Baker, William H. (1970) BS, Southern Utah U., 1969; MS, Brigham Young U., 1970; EdD, Oklahoma State U., 1974.
Perry, Devern J. (1963) BS, MS, Brigham Young U., 1958, 1962; EdD, U. of North Dakota, 1968.
Stoddard, Ted D. (1969) BS, MS, Brigham Young U., 1962, 1963; EdD, Arizona State U., 1967.
Timm, Paul Roy (1979) BA, State U. of New York, 1968; MA, Ohio U., 1969; PhD, Florida State U., 1977.

**Associate Professor**
Thompson, Michael P. (1988) BA, Brigham Young U., 1975; MS, PhD, Rensselaer Polytechnic Inst., 1978, 1985.

**Associate Lecturers**
Hanson, Garth A. (1982) BS, MS, Utah State U., 1963, 1965; PhD, U. of Nebraska, 1973.
Hartman, Larry D. (1984) BA, MS, Brigham Young U., 1962, 1963; EdD, Oklahoma State U., 1973.

**Assistant Professors**
DeTienne, Kristen B. (1991) BA, California State U., 1987; MA, PhD, U. of Southern California, 1990, 1991.
Hanson, Kaye T. (1989) BA, MA, PhD, Brigham Young U., 1964, 1967, 1983.
Howard, Janet M. (1969) BS, MS, Northwestern State U., 1965, 1968; EdD, Brigham Young U., 1985.
Smart, Karl L. (1994) BA, U. of Utah, 1982; MA, Utah State U., 1985; PhD, U. of Florida, 1989.

**Emeriti**
Ashby, Nadine T. (1960) BA, Brigham Young U., 1936; MA, Colorado State Coll., 1959; PhD, U. of North Dakota, 1971.
Bell, R. DerMont (1957) BS, MS, Brigham Young U., 1955, 1956; PhD, U. of Southern California, 1960.
Nelson, George Edward (1968) BS, MS, U. of Utah, 1965, 1966; EdD, Arizona State U., 1968.
Petersen, Betty J. (1963) BS, Utah State U., 1958; MA, EdD, Columbia U., 1960, 1971.
Waters, Max L. (1958) BA, MEd, Brigham Young U., 1958, 1960; EdD, Colorado State Coll., 1963.

# Managerial Economics

Dwight M. Blood, Chair
610-A TNRB, PO Box 23158, (801) 378-2364

## Managerial Economics (ManEc)

### Undergraduate Courses

**300. Economics of Market Systems.** (3:3:0) Independent Study also. Prerequisite: Econ 110.
Models of decision making, business strategy, and price formation in the contemporary market system.

**301. Macroeconomics for Business Decisions.** (3:3:0) Independent Study also. Prerequisite: Econ 110, ManEc 300.
Models of aggregate economic fluctuations, economic growth, inflation, and interest rates.

**452. Real Estate and Urban Analysis.** (3:3:0) Prerequisite: ManEc 300, 301, or equivalent.
Economic analysis of real estate valuation, finance, investment, development, and housing.

**453. Money, Banking, and Business.** (3:3:0) Prerequisite: ManEc 300, 301, or equivalent.
Economic analysis of effects of money, banking, and financial institutions on business decisions and aggregate economic activity.

**458. International Economic Analysis.** (3:3:0) Prerequisite: ManEc 300, 301, or equivalent.
Exchange rate fluctuations, balance of payments, and international competitive advantage.

**475. Public Finance.** (3:3:0) Prerequisite: ManEc 300, 301, or equivalent.
Analysis of interaction of governments and institutions of a market economy. Tax and revenue policy, evaluation of expenditure policy, and impact of public decisions on businesses and individuals.

**476. Government and Business.** (3:3:0) Prerequisite: Econ 110.
Interaction of political and economic forces in determining product and asset prices and the distribution of income and wealth.

**486. Mathematical Economics for Decision Making.** (3:3:0) Prerequisite: Math 112, 199R or equivalent, ManEc 300; 301 or concurrent registration or equivalent.
Linear algebra and calculus applied to production analysis, consumer choice, market equilibrium, and national income models.

**487. Applied Quantitative Analysis.** (3:3:0) Prerequisite: Stat 222 or 321, calculus, ManEc 300; 301 or concurrent registration or equivalent.
Introduction to econometrics and other quantitative methods. Emphasis on applying the models.

**489. Forecasting Methods for Managers.** (3:3:0) Prerequisite: ManEc 300, 301, Stat 222, or equivalent.
Application of quantitative methodologies in business forecasting situations.

### 500-Level Graduate Courses (available to advanced undergraduates)

**552. Urban Analysis.** (3:3:0) Prerequisite: ManEc 300; 301 or equivalent.
Applying economic theory to urban problems and policies.

**576. Topics in Government and Business.** (3:3:0) Prerequisite: ManEc 300, 301, or instructor's consent.
Analysis of either antitrust or public regulation of business (varies with semester).

**589R. Mathematical Theory of Managerial Economics.** (3:3:0 ea.) Prerequisite: ManEc 300, 301, 486, or instructor's consent.
Mathematics of optimization as applied to economic decisions.

**594R. Seminars in Selected Managerial Economics Topics.** (1–6:0:0 ea.) Prerequisite: instructor's consent.
Seminars covering a variety of topics in economic policy and theory.

**595R. Lectures in Managerial Economics.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.

**596R. Readings in Managerial Economics.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.

**597R. Research in Managerial Economics.** (1–3:Arr.:0 ea.) Prerequisite: instructor's consent.

### Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

### Managerial Economics Faculty

**Professors**
Barnes, Howard W. (1964) AB, Harvard Coll., 1955; MBA, U. of Southern California, 1963; Dr rer pol, Technische Universität Braunschweig, Federal Republic of Germany, 1968.
Blood, Dwight M. (1980) BS, U. of Wyoming, 1953; MS, Montana State U., 1955; MA, PhD, U. of Michigan, 1958, 1963.
Bryson, Phillip J. (1983) BA, U. of Utah, 1964; PhD, Ohio State U., 1967.
Clarke, Darral G. (1985) BS, U. of Utah, 1965; MS, Ohio State U., 1967; PhD, Purdue U., 1972.
McDonald, James B. (1972) BS, MS, Utah State U., 1964, 1967; PhD, Purdue U., 1970.
Pritchett, B. Michael (1969) BS, Brigham Young U., 1965; MS, PhD, Purdue U., 1967, 1970.

**Associate Professors**
Crawford, Robert G. (1972) BA, Brigham Young U., 1967; MS, PhD, Carnegie-Mellon U., 1971, 1975.
Koller, Roland H., 2 (1969) BS, U. of Utah, 1962; MA, PhD, U. of Wisconsin, Madison, 1968, 1969.
Nelson, Ray D. (1985) BA, Brigham Young U., 1975; MA, PhD, U. of California, Berkeley, 1979, 1981.

**Adjunct Professor**
Oveson, Richard M. (1976) BA, Brigham Young U., 1955; MPA, PhD, Harvard U., 1965, 1969.

**Emeriti**
Davies, J. Kenneth (1953) BS, Marquette U., 1945; MS, Brigham Young U., 1950; PhD, U. of Southern California, 1960.
Rickenbach, J. Dean (1957) BS, Brigham Young U., 1954; MS, Stanford U., 1957; PhD, Indiana U., Bloomington, 1963.

## Institute of Public Management

Lawrence C. Walters, Director
760-A TNRB, PO Box 23158, (801) 378-7495

### Public Management (PMgt)

### Undergraduate Course

**385. Business and Society.** (3:3:0) Honors also.
Interaction between business and other societal institutions, both domestic and international.

**499R. Honors Thesis in Management.** (1–6:Arr.:0 ea.) F, W, Sp, Su

### Graduate Courses

For 600- and 700-level courses, see the current Marriott School of Management Graduate Catalog and the 1996–97 BYU Graduate Catalog.

### Institute of Public Management Faculty

**Professors**
Brady, F. Neil (1993) BS, MPA, Brigham Young U., 1970, 1980; PhD, U. of Texas, Austin, 1978.
Cornia, Gary C., Associate Dean (1980) BS, Weber State Coll., 1972; MS, Utah State U., 1974; PhD, Ohio State U., 1979.
Hart, David Kirkwood (1983) BS, Brigham Young U., 1957; MA, U. of California, Berkeley, 1960; PhD, Claremont Graduate School, 1965.
Knighton, Lennis M. (1971) AS, Stevens Henager Coll., 1956; BA, MAcc, Brigham Young U., 1962, 1964; CPA, 1964; PhD, Michigan State U., 1966.
Parsons, Robert J. (1970) BS, MS, Brigham Young U., 1964, 1966; PhD, U. of California, Riverside, 1971.
Wright, N. Dale (1968) BA, MS, Brigham Young U., 1964, 1966; PhD, U. of Southern California, 1972.

**Associate Professors**
Buckwalter, Doyle W. (1968) BA, MA, Brigham Young U., 1963, 1964; PhD, U. of Michigan, 1968.
Walters, Lawrence C. (1985) BA, Brigham Young U., 1981; PhD, U. of Pennsylvania, 1986.
Wheeler, Gloria E. (1978) BS, Montana State U., 1965; MA, MS, PhD, U. of Michigan, 1966, 1968, 1972.

**Assistant Professor**
Woller, Gary M. (1991) BA, MBA, Brigham Young U., 1984, 1986; MA, PhD, U. of Rochester, 1989, 1992.

**Emeriti**
Brower, Stephen L. (1974) BS, MS, Utah State U., 1949, 1950; PhD, Cornell U., 1961.
Snow, Karl N., Jr., (1962) BS, Brigham Young U., 1956; MA, U. of Minnesota, Minneapolis, 1958; MPA, DPA, U. of Southern California, 1965, 1972.

# Organizational Behavior

W. Gibb Dyer, Jr., Chair
790 TNRB,PO Box 23018, (801) 378-2664

## Organizational Behavior (OrgB)

### Undergraduate Courses

**320. Fundamentals of Organizational Behavior.** (3:2:2)
Organizational behavior at three levels: individual, group, and organizational. Motivation, communication, rewards, leadership, conflict, decision making, organizational structure, performance evaluation, and organizational change.

**321. Fundamentals of Organizational Behavior.** (3:2:2) Independent Study also. For MSM majors only.
Organizational behavior at three levels: individual, group, and organizational. Motivation, communication, rewards, leadership, conflict, decision making, organizational structure, performance evaluation, and organizational change.

**322M. Honors Fundamentals of Organizational Behavior.** (3:2:2) F, W
Organizational behavior at three levels: individual, group, and organizational. Motivation, communication, rewards, leadership, conflict, decision making, organizational structure, performance evaluation, and organizational change.

**327. Personnel and Human Resource Administration.** (3:3:0) Prerequisite: OrgB 320 or 321.
Functions of personnel administration; employee selection, wage and salary administration, training and development, employee relations, and human resource planning.

**333. Human Resource Development.** (3:3:0) Prerequisite: OrgB 320 or 321.
Competencies and knowledge fundamental to management, employee, and organization development; history, opportunities, programs, preparation, and place of HRD in organizations.

**347. Managerial Leadership Development.** (3:3:0) Independent Study also. Prerequisite: OrgB 320 or 321.
Principles and practices of successful leadership: decision making, communications, planning, team building, motivation, and interpersonal skills.

**367R. Democratic Management.** (1–2:Arr.:0 ea.)
Combination of theory and practice of participative decision making in manufacturing enterprises.

**373. Analysis in Organizations.** (3:3:0)
Methods, models, and processes to (1) recognize, document, and define organizational problems and concerns, and (2) discover ways to enhance employee productivity as well as organizational effectiveness.

**433. Change in Organizations.** (3:3:0)
Theory and interventions of change and development used in organizations to improve employee performance, human processes in organizations, and organizational systems.

**490R. Professional Development Seminar.** (3:3:0 ea.) Prerequisite: OrgB 320 or 321.
Special topics in organizational behavior. Course content varies from year to year.

### 500-Level Graduate Courses (available to advanced undergraduates)

**531. (OrgB-MBA 649) Managing Entrepreneurial Firms and Family Businesses.** (3:3:0) F, W
Issues and problems faced by managers of entrepreneurial enterprises and leaders of family-owned businesses.

**551. Theory and Practice of Third-World Development.** (3:3:0)

**561. Labor Relations.** (3:3:0)

### Graduate Courses

For 600- and 700-level courses, see the current Marriott School of Management Graduate Catalog and the 1996–97 BYU Graduate Catalog.

### Organizational Behavior Faculty

**Professors**
Cameron, Kim S. (1995) BS, MS, Brigham Young U., 1970, 1971; MA, PhD, Yale U., 1976, 1978.
Cherrington, David J. (1973) BS, Brigham Young U., 1966; MBA, DBA, Indiana U., Bloomington, 1970, 1970.
Dyer, W. Gibb, Jr. (1984) BS, MBA, Brigham Young U., 1977, 1979; PhD, Massachusetts Inst. of Technology, 1984.
Mills, Gordon E. (1971) BA, MA, Brigham Young U., 1966, 1967; PhD, Pennsylvania State U., 1970.
Perry, Lee T. (1985) BS, MOB, Brigham Young U., 1974, 1977; PhD, Yale U., 1982.
Peterson, Brent D. (1972) BA, MA, Brigham Young U., 1967, 1968; PhD, Ohio U., 1970.
Ritchie, J. Bonner (1973) BS, PhD, U. of California, Berkeley, 1960, 1968.
Stephan, Eric G. (1968) BS, PhD, U. of Utah, 1961, 1966.
Whetten, David A. (1994) BS, MS, Brigham Young U., 1970, 1971; PhD, Cornell U., 1974.
Wilkins, Alan L. (1978) BA, MBA, Brigham Young U., 1972, 1974; PhD, Stanford U., 1979.
Woodworth, Warner P. (1976) BS, MS, Brigham Young U., 1967, 1969; PhD, U. of Michigan, 1974.

**Associate Professors**
Gregersen, Hal B. (1992) BA, U. of Utah, 1981; MOB, Brigham Young U., 1983; PhD, U. of California, Irvine, 1989.
Kirkham, Kate L. (1978) BS, U. of Utah, 1966; MA, George Washington U., 1973; PhD, Union Graduate School, 1977.
Meek, Christopher B. (1984) BS, MOB, Brigham Young U., 1973, 1975; PhD, Cornell U., 1983.

**Assistant Professor**
Godfrey, Paul C. (1994) BS, U. of Utah, 1983; MBA, PhD, U. of Washington, 1989, 1994.

**Emeriti**
Covey, Stephen R. (1957) BS, U. of Utah, 1953; MBA, Harvard U., 1957; DRE, Brigham Young U., 1976.
Dalton, Gene W. (1972) BS, U. of Utah, 1952; MS, Brigham Young U., 1956; DBA, Harvard U., 1962.
Dyer, William G. (1955) BA, MA, Brigham Young U., 1950, 1952; PhD, U. of Wisconsin, Madison, 1955.
Moffitt, J. Weldon (1953) BS, Brigham Young U., 1949; MS, U. of Utah, 1950; PhD, U. of Illinois, 1953.
Pace, R. Wayne (1978) BS, U. of Utah, 1953; MS, Brigham Young U., 1957; PhD, Purdue U., 1960.

## Management Communication

See Management, J. Willard and Alice S. Marriott School of.

## Managerial Economics

See Management, J. Willard and Alice S. Marriott School of.

## Mandarin

See Asian and Near Eastern Languages.

# Manufacturing Engineering and Engineering Technology

Robert H. Todd, Chair
435 CTB, PO Box 24206, (801) 378-6300

College of Engineering and Technology Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

The degree programs in the Department of Manufacturing Engineering and Engineering Technology carry special enrollment limitations. Please see the college advisement center for specific details.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Electronics Engineering Technology
Emphasis (optional):
International
BS Manufacturing Engineering
Emphasis (optional):
International
BS Manufacturing Engineering Technology
Emphasis (optional):
International

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Manufacturing Engineering
MS Computer-Integrated Manufacturing
MEM Master of Engineering Management
MTM Master of Technology Management

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

### Financial Support Opportunities

In addition to general university scholarships and student employment, the Manufacturing Engineering and Engineering Technology Department offers department scholarships, a cooperative education program with industry, and a variety of departmental part-time jobs such as research assistant, new product developer, lab assistant, paper grader, electronics technician, maintenance assistant, computer operator, etc.

### Cooperative Education

Industrial experience in the major before graduation is strongly encouraged. Qualified students may enroll in 199R or 399R (cooperative education) and receive 0–4 hours of credit for each semester. The co-op program must be approved before the actual experience. A formal report and employer evaluation are required. Co-op credit hours may be used to fill technical elective requirements.

### Transfer Credit

When transferring into the department, students should meet with an assigned advisor before registering for classes to evaluate their technical courses and to get help in planning their schedule for completion of remaining course work.

### Extracurricular Activities

Students may join student chapters of national professional organizations affiliated with their major area of study. Student interaction, leadership, and career awareness are important to engineering and technology studies. All majors are encouraged to become members and actively participate not only in these chapters, but also to support field trips, guest speakers, banquets, and department activities.

### Academic Standards and Continuance

On gaining acceptance into the professional program, students must maintain a minimum university cumulative grade point average of 2.0. Students who accumulate more than 6 credit hours of grades below C– in professional program courses may

not continue in the program or graduate until courses are retaken to reduce the unacceptable credit to 6 or fewer hours. A professional program course may not be retaken more than once.

# Electronics Engineering Technology

C. Richard Helps, Program Coordinator
265 CTB, (801) 378-6305

### The Discipline

The BS degree provides students with a fundamental background in applied engineering electronics. The program provides training at the professional (four-year) level in communications, digital electronics, circuit analysis, networks, instrumentation, real-time programming, computer-aided process control, and testing. This is accomplished through the use of the excellent department facilities, which include some of the latest electronic equipment, computer facilities (a real-time computer laboratory and local area network system), and communications equipment. Graduates are responsible members of the technical team at the professional level, where electronics is developed, manufactured, applied, and maintained to meet the needs of society.

This engineering technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (TAC/ABET).

### Career Opportunities

Graduates of the electronics engineering technology program apply engineering principles and supervise people who work in the areas of design, development, production, construction, operations, sales, and management in the electronics industry. EET graduates normally work in areas of engineering application, rather than engineering research. Graduates find employment in aerospace, the networking industry, computer software and hardware fields, and small electronic manufacturing companies.

### General Information

Nine hours of 400-level EET core electives are selected from a list of six available courses to give students more choice in their senior year. Taking 6 more hours of technical electives, selected from any area on the BYU campus, allows students to gain additional strength in their area of specialization. These electives must be approved by an advisor prior to taking the courses.

Recommended high school courses include algebra, trigonometry, physics, computers and keyboarding, and electronics. Additional course work in calculus, electricity, drafting, chemistry, and shop is also recommended. Students who lack this preparation should make an appointment with an advisor and plan their program.

This four-year degree is designed so that students who complete a TAC/ABET-accredited two-year electronics technician program can transfer to BYU and complete the last two years with minimum interruption.

## BS Electronics Engineering Technology (86 hours*)

### Major Requirements

1. Complete 30 hours of university-level credit with a minimum cumulative GPA of 2.0.
2. Complete the following preprofessional courses with a grade of C– of better:
   EET 101, 103, 136, 231, 233, 240.
   Math 111, 112, 113.
   Chem 105.
   CS 130.
   Phscs 121, 221.
   EET 291R (take three times; not needed while enrolled in EET 101).
3. Complete the following supporting courses:
   Econ 110.
   Stat 361.
4. Select one of the following:
   Engl 316.
   EET 493R (3 hours).
5. Complete the following professional courses:
   EET 325, 328, 340, 343, 345, 447.
   EET 391R (take four times).
   **And** select three courses from the following:
   EET 421, 431, 441, 443, 444, 461R.
6. After consulting with an EET advisor, complete 6 hours of technical electives.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (93.5–95.5 hours*)

### Emphasis Requirements

1. Complete the requirements for the electronics engineering technology program as outlined above (with the exception of Econ 110).
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. After consulting with the college advisement center, select a foreign literature course or a classical civilization course.
   **Or** select one course from the following:
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
   VAHis 260.
5. An international "live-in" experience is required. It may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.

### Recommended

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Electronics Engineering Technology (EET)

### Undergraduate Courses

**Note:** For 500-level and above electronics engineering technology courses, see the department office (435 CTB).

**101. Cornerstone, Electronics Engineering Technology.** (2:2:2) F, W
Planning and preparing for a successful career in electronics engineering technology. Developing personal integrity, study skills, and computing and problem-solving skills.

**103. AC/DC Circuits.** (4:3:3) F, W, Su Prerequisite: Math 112 or concurrent registration.
Basic AC/DC analysis, including Ohm's Law, loop and nodal analysis, capacitance, inductance, the sine wave, impedance, reactance, resonance, network theorems, and transformers. Fee.

**136. Digital Circuits.** (3:2:3) F, W Prerequisite: EET 103.
Logic circuits and families, documentation and terminology, combinational and sequential circuit analysis and design. Fee.

**198R. Directed Studies in Electronics Engineering Technology.** (2:2:2 ea.)
Introduction to electronics engineering technology. Special topics in problem-solving and technology careers.

**199R. Cooperative Education: Electronics Engineering Technology.** (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**231. Active Devices and Circuits.** (4:3:3) F, W Prerequisite: EET 103, Math 112, Chem 105.
Diode and transistor principles including semiconductor theory, bipolar and field effect device characteristics and parameters, amplifier principles including biasing and AC impedance and gain analysis, power amplifiers. Fee.

**233. Advanced Electronic Devices and Linear Integrated Circuits.** (4:3:3) W, Sp Prerequisite: EET 231.
Feedback principles, frequency response and Bode analysis, Miller effect, differential amplifiers, operational amplifiers, regulators, generators, instrumentation amplifiers, multipliers, active filters.

**240. System Controllers.** (3:2:3) F, W Prerequisite: EET 136, CS 130.
State machine and system controller design, registers, memories, microprocessors, and microcomputers. Fee.

**291R. Undergraduate Seminar.** (0:1:0 ea.) F, W, Sp
Required of all freshman and sophomore electronics engineering technology students each semester. College Lecture and Technology Department Lecture attendance required.

**314. Industrial Electronics.** (3:2:3) F, Sp Prerequisite: Math 112, Phscs 122; EET 231 for EET majors.
Introduction to industrial electrical and electronic devices and circuits. Control system applications. Technical reporting of lab data and industrial applications. Operation of common lab equipment.

**325. RF and Communication Circuits.** (3:2:3) F, W Prerequisite: EET 233.
Introduction to RF circuits, transformer tuned circuits, audio frequencies, noise analysis, impedance matching, amplitude and frequency modulation circuit theory, transmission and reception, transmission lines.

**328. Electronic Manufacturing Processes.** (3:2:3) F Prerequisite: EET 231.
Introduction to modern electronic packaging and manufacturing problems and processes through individualized design and production of an electronic prototype and its technical manual. Includes computer-aided production drawings, troubleshooting, breadboard work, and printed circuit fabrication. Fee.

**340. Process Control Programming.** (3:2:3) F, W Prerequisite: EET 240.
Interactive computing, using assembly language on microcomputers.

**343. Computer Interfacing.** (3:2:3) W, Sp Prerequisite: EET 240, 340.
Microcomputer applications, digital system interface design, parallel and serial interfacing, A/D and D/A converters. Fee.

**345. Advanced Communication Systems.** (3:2:3) W, Sp Prerequisite: EET 325, Engl 316, concurrent registration in EET 328.
Transmitters and receivers, including digital, microwave, and light wave systems. Student projects. Fee.

**346. Audio and Video Systems.** (3:2:3) F alt. yr. Prerequisite: EET 245.
Audio and video components, circuits, and systems used in recording and broadcasting. FCC regulations.

**391R. Junior/Senior Seminar.** (0.5:1:0 ea.) F, W, Sp
Required four times during junior/senior years while in professional program. College Lecture and Technology Department Lecture attendance required.

**399R. Cooperative Education: Electronics Engineering Technology.** (3:0:0 ea.) F, W, Sp, Su Prerequisite: approval of department chair and cooperative education coordinator.
Experience in industrial environment. Approved job function supervised by employer and EET coordinator. Formal technical report required.

**421. Control Systems.** (3:2:3) F Prerequisite: Phscs 121, Math 113, EET 343, 345.
Switching circuits, first- and second-order systems using Laplace transforms feedback control, transfer functions, digital control.

**431. Digital Signal Processing.** (3:2:3) W Prerequisite: Math 113, EET 340, 343.
Analysis, design, and construction of frequency domain systems and signals using DSP techniques and computer tools. Design of active filters and systems using DSP processors.

**441. Real-Time Computer Systems.** (3:2:2) F Prerequisite: EET 343.
Real-time operating systems, using a microcomputer operating system to illustrate system concepts in multitasking real-time operating environments.

**443. Microwave and Light Wave Communications.** (3:2:3) Su Prerequisite: Phscs 221, EET 343, 345.
Microwaves, waveguides, antennas, electro-optic devices, lasers, and fiber optics. Student projects. Fee.

**444. Electronic Instrumentation.** (3:2:3) W Prerequisite: EET 103; 314 or 340; or instructor's consent.
Design and application of basic instrumentation to automated manufacturing and control processes.

**447. Electronic Systems.** (3:2:3) W, Sp Prerequisite: complete two or more EET 400-level core courses.
Individual and team analysis, design, and implementation work on a team project. Oral and written reports. Fee.

**461R. Current Topics in Electronics Engineering Technology.** (3:2:3) Prerequisite: EET 328, 340, 343, 345.

In-depth analysis of current growth areas in electronics engineering technology. Detailed discussion and lab experience of a few topics from faculty working in the field.

**492R. Special Problems in Electronics Engineering Technology.** (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: EET senior standing, Engl 316, and an approved project proposal.

Individual study in research and design related to electronics or computer-aided process control.

**493R. Research and Writing.** (1:1:0 ea.) F, W, Sp, Su

A writing/research course taken simultaneously with three specified EET courses. Completion of the integrated courses will satisfy the university advanced writing requirement (such as Engl 316).

# Manufacturing Programs: Manufacturing Engineering (MFE) and Manufacturing Engineering Technology (MET)

Val D. Hawks, Program Coordinator
435 CTB, PO Box 24206, (801) 378-4571

### The Discipline

The development of worldwide manufacturing competition in recent years has demonstrated the importance of manufacturing skills and the need for engineering professionals in this field. Manufacturing is a multidisciplinary subject, including such areas as process design, production planning, product design for manufacturability, materials science, automation, quality control, group technology, human factors, and organizational issues. Manufacturing engineers use theoretical and computational tools from this broad subject matter to solve interesting and rapidly changing technical challenges. New approaches to making products more efficiently and of higher quality involve multidisciplinary teams, often led by manufacturing engineers.

Manufacturing engineering technologists generally use hands–on, common-sense approaches to improve manufacturing processes and make higher-quality products.

The Manufacturing Engineering (MFE) Program is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (EAC/ABET).

The Manufacturing Engineering Technology (MET) Program is fully accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (TAC/ABET).

### Career Opportunities

Every product we purchase includes elements of manufacturing, whether in the product itself or in the packaging, shipping, display, and selling. Manufacturing engineering and manufacturing engineering technology offer the exciting challenge of helping turn ideas into reality, and doing it better and more efficiently than the competition. Manufacturing engineers use their creativity to build a better world for themselves and humankind.

Recent developments in international economic competition have demonstrated the need for improved manufacturing. This has created a wide-open market for manufacturing engineers who coordinate product designs, customer service, safety, and the work of quality and process engineers. Manufacturing engineers improve existing manufacturing systems and create new ones. The manufacturing engineer's view covers the whole manufacturing enterprise—often providing excellent experience for technical and corporate management positions. Many companies are seeking professionals who have been educated specifically in manufacturing to meet this competition.

Manufacturing technologists improve existing manufacturing processes to build better products. Students who speak foreign languages find a wealth of opportunities to work with American companies establishing overseas facilities and with foreign companies in U.S. locations. Graduates have entered careers working with all types of manufactured goods including automobiles, commercial and military aircraft, tires, appliances, and toys, to name a few. Job opportunities exist not only throughout the United States but worldwide.

## BS Manufacturing Engineering (MFE) (94 hours*)

**Major Requirements**

1. Complete the following preprofessional program:
   Math 112, 113.
   Chem 105.
   CEEn 103.
   Phscs 121, 122.
2. Complete the following supporting courses:
   Math 312, 313.
   Phscs 221.
   CS 130.
   MFE 232, 250, 251.
   CEEn 203.
   MeEn 172.
3. Select one of the following:
   Engl 316.
   MFE 493R (3 hours).
4. Complete the following during first two semesters at BYU:
   MFE 101, 102.
5. Complete the following professional courses:
   MFE 340, 355, 361, 432, 475, 476, 480.
   Stat 361.
   MeEn 371, 401.
   CEEn 204.
   EET 315.
6. Select one course from the following:
   MET 431.
   MFET 572.
7. Technical electives: after consulting with a department advisor, select 6 hours from upper-division courses.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (104.5–106.5 hours*)

**Emphasis Requirements**

1. Complete the requirements for the manufacturing engineering program as outlined above.
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   Rel C 344, 351, 355, 356.

4. After consulting with the college advisement center, select a foreign literature course or a classical civilization course. **Or** select one course from the following:
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
   VAHis 260.
5. An international "live-in" experience is required. It may be satisfied by: (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.

**Recommended**

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Manufacturing Engineering (MFE)

### Undergraduate Courses

**Note:** For 500-level and above manufacturing engineering courses, see Manufacturing Engineering and Engineering Technology (MFET) courses listed after the undergraduate courses.

**101. Manufacturing Engineering Cornerstone Seminar.** (1:1:0)
Seminar for all students entering the major. Speakers from industry and university backgrounds discuss current topics in manufacturing. College Lecture attendance required.

**102. Manufacturing Engineering Cornerstone Seminar.** (1:1:0)
Seminar for all students entering the major. Speakers from industry and university backgrounds discuss current topics in manufacturing. College Lecture attendance required.

**199R. Cooperative Education for MFE.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's or cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**232. Manufacturing Processes.** (3:2:3) W
Survey of common manufacturing processes including technological limitations and economic considerations. Influence of product design on process selection and manufacturing efficiency.

**250. (MFE-MeEn) Science of Engineering Materials.** (3:3:0) F, W, Sp Prerequisite: Chem 105.
Principles and properties of solid materials and their behavior as applied to engineering.

**251. Material Science Laboratory.** (1:0:3) F, W, Sp Prerequisite: concurrent registration in MFE 250. Fee.

**332. Manufacturing Processes.** (3:2:3) Prerequisite: MFE 250, CEEn 203.
Comparison of manufacturing processes relating to engineering design. Interaction between manufacturability and design. Theory and experimentation studies of strength, surface finishes, and tolerances. Hands-on laboratory.

**340. Quality Assurance.** (3:2:3) W, Su Prerequisite: MFE 232 or MET 230.
Organization, management, and quality control in manufacturing, including metrology, nondestructive testing, and statistical process control.

**355. Polymer Properties and Processing.** (3:2:3) F Prerequisite: MFE 250, CEEn 203.
Physical properties of polymeric materials; characteristics of polymer groups; manufacturing methods and resultant properties.

**361. Manufacturing Instrumentation and Control.** (3:2:3) W Prerequisite: Phscs 221, Math 313.
Fundamentals of mechanical and electrical control and instrumentation applied to manufacturing. Classical frequency and time domain feedback control systems and introduction to digital control.

**394. Manufacturing Engineering Practicum.** (3:0:6) W Prerequisite: second semester junior standing.
Working in teams to solve problems encountered in local industry.

**432. Advanced Manufacturing Processes.** (3:3:0) W Prerequisite: MFE 232, 250.
Engineering analysis of manufacturing processes, including joining, forming, machining, casting, and particulate processes. Selection of process parameters, considering economics and material properties.

**475, 476. (MFE-MeEn) Integrated Product and Process Design 1, 2.** (3:2:3 ea.) F, W Prerequisite: senior standing in mechanical or manufacturing engineering or related disciplines with instructor's consent.
Comprehensive two-semester design experience from conception to manufacturing planning and prototype. Product development process. Economic and manufacturing considerations. Intellectual property assignment agreement required.

**480. Production and Process Control.** (3:3:0) W, Su Prerequisite: MFE 340; senior standing.
Organization, design, and management of production systems. Manufacturing analysis, process capability, equipment specification, manufacturing economics, and cost estimating.

**493R. Research and Writing.** (1:1:0 ea.) F, W, Sp, Su
Writing/research course taken simultaneously with three specified MFE courses. Completion of the integrated courses will satisfy the university advanced writing requirement (such as Engl 316).

## BS Manufacturing Engineering Technology (75 hours*)

**Major Requirements**

1. Complete the following preprofessional requirements:
   MET 101, 102, 131, 230.
   Math 111, 112.
   MeEn 172.
   Chem 105.
   Phscs 105, 107.
2. Complete the following supporting courses:
   EET 314, 444.
   Stat 361.
   Math 113.
   CEEn 103, 203.
   MFE 340, 480.
3. Select one of the following:
   Engl 316.
   MET 493R (3 hours).

4. Complete the following professional requirements:
   MET 324, 336, 431.
   MET 329 or 331.
   MET 498 (during senior year).
   MFE 250, 251, 355.
   RelC 491, 492.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (85.5–87.5 hours*)

**Emphasis Requirements**

1. Complete the requirements for the manufacturing engineering technology program as outlined above.
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. After consulting with the college advisement center, select a foreign literature course or a classical civilization course.
   **Or** select one course from the following:
   Art 210.
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
5. An international "live-in" experience is required. It may be satisfied by: (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.

**Recommended**

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Manufacturing Engineering Technology (MET)

### Undergraduate Courses

Note: For 500-level and above manufacturing engineering technology courses, see Manufacturing Engineering and Engineering Technology (MFET) courses listed after the undergraduate courses.

**101, 102. Manufacturing Cornerstone Seminar.** (1:1:0) F, W
Seminar for all students entering the major. Speakers from industry and university backgrounds discuss current topics in manufacturing. College Lecture attendance required.

**131. Machining Operations.** (3:2:3) F, Su
Capabilities and operation of basic machine tools and study of production machining processes. Application and use of inspection gages for quality control.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's or cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**230. Computer Numerical Control Programming.** (3:2:3) F, Sp Prerequisite: MET 131, concurrent registration in Math 112.
Manual programming of computer numerical control machine tools for industrial applications. Standard EIA/ASC II programming codes and formats utilized.

**324. Joining Processes.** (3:2:4) W, Su Prerequisite: CEEn 203, MET 335.
Theory, application, and economics of various joining processes; welding, soldering, riveting, threaded fasteners, mechanical assembly tools and techniques.

**329. Metal Forming.** (3:2:2) W, Sp Prerequisite: CEEn 203, MET 335.
Introduction to metal-forming theory as applied to production processes.

**331. Cast Metal Processes.** (3:2:3) F, Sp Prerequisite: MET 335, 336.
Melting, pouring, solidification, casting problems, design considerations, and testing as they apply to latest foundry processes. Automated and computer-controlled foundries.

**335. Materials Science.** (4:3:3) F Prerequisite: MET 131, Chem 105.
Properties, testing, heat treating, selection, and use of materials.

**336. Fluid Power and Control.** (3:2:2) W, Sp Prerequisite: Math 113; Phscs 122 or concurrent registration, EET 314.
Hydraulic and pneumatic systems as a means of transmitting and controlling power; component identification and operation; fluid power graphical symbols, circuits, and applications.

**360. Plastics Materials and Processing.** (3:2:3) W Prerequisite: MET 131, 335, Chem 105.
Design and processing of plastic materials for industrial applications.

**399R. Cooperative Education: Manufacturing Engineering Technology.** (1–9:0:Arr. ea.)
Experience in industrial environment. Approved job function supervised by employer and manufacturing engineering technology co-op coordinator. Proposal, regular progress reports, and formal technical report required.

**431. Tool Design.** (3:2:2) F, Sp Prerequisite: MeEn 171, Math 113, CEEn 203; last-semester senior standing.
Design of special tooling as applied to manufacturing processes.

**490R. Special Problems in Manufacturing Engineering Technology.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**493R. Research and Writing.** (1:1:0 ea.) F, W, Sp, Su
Writing/research course taken simultaneously with three specified MET courses. Completion of the integrated courses will satisfy the university advanced writing requirement (such as Engl 316).

**498. Senior Manufacturing Project and Operations.** (2:0:6) F, W Prerequisite: senior standing in manufacturing engineering technology or instructor's consent.
Planning, design, and manufacturing development of an assigned senior project. Required of all seniors.

## Manufacturing Engineering And Engineering Technology (MFET)

### 500-Level Graduate Courses (available to advanced undergraduates)

**501. Fundamentals of Manufacturing Processes, Design, Materials, and Information Transfer.** (3:2:2) Sp
Interrelation of manufacturing processes, design, materials, and information transfer. Importance of manufacturing in society.

**528. Electronic Fabrication and Assembly.** (3:2:3) F alt yr. Prerequisite: EET 314 or equivalent and instructor's consent.
Theory and application of manufacturing processes required to produce electronic equipment.

**529. Manufacturing Information Processing and Networks.** (3:2:3) W Prerequisite: Phscs 221; EET 443 or instructor's consent.
Function and system analysis and application for sensing, sending, and processing manufacturing information; metallic and light wave technology networking; data, media, standards, topologies, protocols, instrumentation, and integration.

**531. Advanced Computer Numerical Control Programming.** (3:2:3) F Prerequisite: MET 230, CS 142, or instructor's consent.
Programming techniques and requirements for manufacturing components on computer numerical control machining centers, emphasizing programming, applications, and software development. Fee.

**532. Group Technology.** (3:2:2) F Prerequisite: MFE 480 or instructor's consent.
Classification theory and practice applied to workpiece classification and coding, statistics, cellular production, design retrieval, and implementation strategies, emphasizing computer application.

**533. Computer-Integrated Manufacturing.** (3:2:3) W Prerequisite: MFE 480 or instructor's consent.
Basic activities, elements, and principles of computer-aided manufacturing, including terminology, systems integration, architecture, database development, interfaces, and computer hardware and software requirements, with justification and implementation plans.

**534. Automation.** (3:2:2) F Prerequisite: instructor's consent.
Determining appropriate levels of manufacturing automation based on economics and productivity. Elements of automation, including sensors, robots, conveyors, and part feeders.

**536R. Advanced Process Mechanics.** (3:2:3 ea.) F Prerequisite: MFE 432.
Analysis and experimental validation of selected manufacturing processes.

**537. Advanced Mechanisms.** (3:3:0) W Prerequisite: MeEn 337.
Kinematics and dynamics of advanced mechanisms, such as robots, with computer simulation of their motion. Task planning and simulation of mechanism activities in manufacturing work cells.

**538. Technical Management.** (3:3:0) W
Techniques and tools for effective technical management. Management, analysis, cost justification, and communication skills within manufacturing or engineering environments.

**540. Computer-Aided Testing.** (3:2:2) F alt. yr. Prerequisite: instructor's consent.
Introduction to computer-aided testing for product quality assurance using microcomputers, IEEE bus instrumentation, and host minicomputer systems.

**541. Advanced Materials Science.** (3:3:0) F, Sp alt. yr. Prerequisite: MET 335 or MFE 250; CEEn 203.
Builds on student's manufacturing and materials background to investigate interrelationship of material and process.

**547. Information Transmission.** (3:2:3) F alt. yr. Prerequisite: Phscs 221; EET 443 or instructor's consent.
Function and system analysis and applications for sensing, sending, and processing information.

**553. (MFET-MeEn) Mechanical Behavior of Polymers.** (3:3:0) W Prerequisite: CEEn 203 and MFE 355 or instructor's consent.
Generalized elasticity relationships, viscoelasticity, yielding and fracture, crazing, rubber elasticity, anisotropic behavior, processing effects on properties, optical and other properties.

**555. Introduction to Composites.** (3:2:3) F, Sp Prerequisite: instructor's consent.
Structure, processing, properties, and uses of composite materials, including various manufacturing methods and the relationship between properties and fabrication.

**572. Design for Manufacturing.** (3:2:2) F Prerequisite: senior standing.
Introduction to design evaluation tools for use by product development teams, including Quality Function Deployment, Early Cost Estimating, and Design for Assembly.

**574. Tool Engineering.** (3:2:3) W Prerequisite: MFE 432 and senior standing.
Design of production machines and tools with functionality, producibility, maintainability, and cost considerations utilizing concurrent product and process design approach.

**580. Manufacturing Simulation.** (3:3:0) F Prerequisite: MFE 480 and instructor's consent.
Design and optimization of manufacturing systems using simulation. Simulation languages and modeling methodology.

**591R. Graduate Seminar.** (0.5:1:0 ea.) F, W Prerequisite: graduate standing.
Topics in research and thesis writing. Graduate students will present thesis and dissertation subject.

**592R. Materials Seminar.** (0.5:0:0 ea.) F, W
Advanced topics in materials science and engineering.

**595R. Special Topics.** (1–18:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's and department's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Manufacturing Engineering and Engineering Technology Faculty

**Professors**

Red, W. Edward (1983) BA, BSME, Rice U., 1965; PhD, Arizona State U., 1972.
Strong, A. Brent (1986) BA, PhD, U. of Utah, 1967, 1971.
Todd, Robert (1989) BS, California State U., Northridge, 1964; MS, PhD, Stanford U., 1965, 1971.

**Associate Professors**

Hawks, Val D. (1985) BS, Brigham Young U., 1980; MS, Lehigh U., 1986.
Johnson, A. Kent (1991) BSEE, Brigham Young U., 1960; MSEE, New York U., 1962; DSc, Steven Inst. of Technology, 1965.
Kunzler, John J., Jr. (1971) BS, Utah State U., 1963; MS, Brigham Young U., 1980.
Rotz, Christopher A. (1985) BS, MS, PhD, Massachusetts Inst. of Technology, 1973, 1976, 1978.
Smart, Merrill J. (1967) BS, Brigham Young U., 1959; MS, U. of Utah, 1962.
Sorensen, Carl D. (1987) BS, Brigham Young U., 1981; PhD, Massachusetts Inst. of Technology, 1985.

**Assistant Professors**

Carter, Perry W., II (1980) BS, MS, Brigham Young U., 1973, 1974; PhD, U. of Massachusetts, 1988.
Harrell, Charles R. (1982) BS, Brigham Young U., 1976; MS, U. of Utah, 1982; PhD, U. of Denmark, 1988.
Helps, C. Richard (1986) BSc (Eng.), MSc (Eng.), Witwatersrand, South Africa, 1978, 1986.
Kohkonen, Kent E. (1970) BS, MS, Brigham Young U., 1968, 1976.
Lunt, Barry M. (1992) BS, MS, Brigham Young U., 1978, 1979; PhD, Utah State U., 1993.
Owen, Earl F. (1982) BS, MS, U. of Utah, 1970, 1972.

**Instructor**
Nelson, Tracy W. (1994) BS, MS, Ohio State U., 1991, 1993.

**Emeriti**
Allen, Dell K. (1960) BS, Utah State U., 1954; MS, Brigham Young U., 1966; EdD, Utah State U., 1973.
Holt, Ivin L. (1963) BS, Brigham Young U., 1957; MEd, Pennsylvania State U., 1958; EdD, Arizona State U., 1972.
Mather, C. Glayd (1974) BS, MS, Utah State U., 1964, 1965.
Tolman, Wilford J. (1960) BS, MS, Brigham Young U., 1960, 1964.

# Mathematics

Gerald M. Armstrong, Chair
290 TMCB, PO Box 26259, (801) 378-2061

Jacqueline Taylor-Ortega, Associate Chair
286 TMCB, PO Box 25258, (801) 378-3640

College of Physical and Mathematical Sciences Advisement Center
1116 TMCB, PO Box 26539, (801) 378-6270

## Admission to Degree Program

All degree programs in the Department of Mathematics are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

The mathematician's strength lies in his or her ability to contemplate processes in terms of structure and pattern. By drawing on a broad and deep understanding of the discipline, the mathematician attempts to describe, to analyze, to understand the nature of the processes being studied.

In essence, mathematics is about solving problems and providing rigorous verification that, indeed, the problems have been solved. Mathematics brings together both ingenious, risk-taking insight and rigorous, logically certain demonstration that the insight works. It demands innovative thinking, not just technical or imitative manipulating. On the other hand, it requires scrupulous honesty about what is claimed to be known.

## Career Opportunities

Mathematics is central to life in a technological society. The rigor and discipline required to excel in mathematics develop skills that are in constant demand. Graduates are able to obtain positions in a wide variety of business, governmental, and industrial enterprises. Mathematics majors also are sought by professional schools of law, medicine, and management. Mathematical experience enhances the life and the capabilities of every intellectually curious student.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Mathematics |
| BA | Mathematics Education |
| BS | Honors in Mathematics and University Honors |
| Minors | Mathematics |
| | Mathematics Education |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Mathematics |
| MA | Mathematics |
| MA | Mathematics Education |
| PhD | Mathematics |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. It is recommended that a student complete the following courses in high school:

   3 units of English
   1 unit of physical science, either chemistry or physics.
   4 units of mathematics, consisting of 2.5 units of algebra, 1 unit of geometry, and .5 unit of trigonometry. This should qualify students to begin college mathematics with Math 112H, (Calculus 1).

Because mathematics provides the foundation for all work in the physical and mathematical sciences, particular attention is paid to high school preparation in this subject.

Advanced placement credit is available in mathematics. Completion of the AP calculus AB exam with a score of 3 enables one to receive credit for Math 110, 111, and 3 elective credits. A score of 4 or 5 on the AB exam allows credit for Math 110, 112, and 1 elective credit. Students passing the BC exam with a score of 3, 4, or 5 receive credit for Math 112 and 113. (Because several variable calculus is now introduced in Math 113, students who pass the BC exam and elect to begin in a mathematics course numbered 300 or

above are required to demonstrate competence in calculus to their instructor.) Students should direct Educational Testing Service (ETS) to report the score to BYU to have credit posted on their transcripts.

To decide which mathematics course should be taken first, write to the Mathematics Department, 292 TMCB, and request placement.

2. Majors are strongly urged to study Phscs 121 and 122 during their first two years.
3. It is recommended that those who plan subsequent graduate work in mathematics select the courses Math 372 and 541, thereby acquiring some depth in two fundamental areas. They also are advised to take the GRE by the fall of their final year and become competent in either the French, German, or Russian language. Those who plan to earn the doctorate in mathematics should choose Math 551 and 552 as well and should become competent in one or two of the listed languages while an undergraduate.
4. It is strongly recommended that RelC 491 be taken during the senior year.

## BS Mathematics (48 hours*)

**Major Requirements**

1. No grade below C is allowed in major courses.
2. Complete the following core requirements:
   Math 112H, 113H, 190, 315, 343, 371.

   **Note:** These courses should be taken during the first two years of the program.
3. Complete the following major requirements:
   Math 316, 332, 434.
4. Select one of the following:
   CS 130, 142.
5. Select one of the following:
   Stat 321, 421.
6. After consulting with a faculty advisor, complete 12 hours from one area of specialization: differential equations, discrete math, geometry, numerical analysis, or pure math.
7. Select 3 hours from the following:
   Math 300, 302, 311, 323, 350, 355, 372, 387, 411, 451R, 480, 495R, 501, 502, 511, 512, 513R, 521, 522, 530, 541, 542, 543, 551, 552, 585.
   CS 561.
   Stat 463.
   Phscs 517.
8. Students who continue toward graduate work should complete Math 372, 532, 541, and 542 and are urged to gain competence in French, German, or Russian while undergraduates.
9. Those planning for doctoral work should also complete Math 551 and 552 and gain competence in one or two languages. Credit in two groups may not be received for any one course.

**Recommended Courses**

Phscs 121, 122.

*Hours include courses that may fulfill GE or university requirements.

## BA Mathematics Education (66–67 hours,* including certification hours)

**Major Requirements**

1. No grade below C– is allowed in major courses.
2. Complete the following:
   Math 112H, 113H, 190, 300, 302, 315, 343, 371.
   CS 302.
   Stat 301.
3. Select one of the following:
   Math 316, 372.
4. Select one course from the following:
   Math 350, 355, 387.
5. A teaching minor is not needed for certification. However, it is strongly recommended.
6. Complete the Professional Education Component (29–30 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Mathematics and University Honors

For more information on this degree program, see the college advisement center.

See also the University Honors Education section of this catalog.

## Minor Mathematics (20 hours*)

1. Complete all minor courses with a C– or better.
2. Complete the following courses:
   Math 112, 113, 343.
3. Select one course from the following:
   Math 315, 316, 344.
4. Select 6 hours from the following:
   Math 300, 302, 311, 315, 316, 323, 332, 350, 355, 371, 372, 387, or any 400- or 500-level mathematics course.

**Note:** Courses offered by other departments cannot be substituted. Math 312, 313 will not be accepted for the minor.

*Hours include courses that may fulfill GE or university requirements.

## Minor Mathematics Education (25 hours*)

1. Complete the following:
   Math 112, 113, 190, 302, 343.
   CS 302.
   Stat 301.
2. Select one course from the following:
   Math 350, 355, 371, 387.

*Hours include courses that may fulfill GE or university requirements.

# Mathematics (Math)

## Undergraduate Courses

**Note:** For courses containing material preparatory to Math 97 (up through beginning algebra) please refer to Independent Study.

**97. Intermediate Algebra.** (0:2:1) F, W, Sp, Su Independent Study also. Prerequisite: high school algebra.
Elementary logic, real number system, equations and inequalities (linear, polynomial, rational, and radical expressions), graphing, function notation, inverse function, exponential functions, systems of equations, variations. Fee.

**110. College Algebra.** (3:3:0) F, W, Sp, Su Independent Study also. Prerequisite: Math 97 or equivalent.
Functions, polynomials, theory of equations, exponential and logarithmic functions, matrices, determinants, systems of linear equations, permutations, combinations, binomial theorem.

**111. Trigonometry.** (2:2:0) F, W, Sp, Su Independent Study also. Prerequisite: Math 110.
Circular functions, triangle relationships, identities, inverse trig functions, trigonometric equations, vectors, complex numbers, DeMoivre's theorem.

**112, 113. Calculus 1, 2.** (4:5:0 ea.) F, W, Sp, Su Honors and Independent Study also. Prerequisite: Math 110 and 111 or equivalent.
Plane analytic geometry; one-dimensional differential and integral calculus, with applications, partial derivatives.

**119. Introduction to Calculus.** (4:4:1) F, W, Sp, Su Independent Study also. Prerequisite: Math 110.
Introduction to plane analytic geometry and calculus. For students in the College of Biology and Agriculture and the Marriott School of Management.

**190. Fundamentals of Mathematics.** (2:2:1) F, W, Su Prerequisite: Math 112 or concurrent registration with instructor's consent.
An introduction to mathematical proof. Topics selected from logic, set theory, integers, real numbers, induction, modular arithmetic, inclusion, exclusion, Cartesian products, relations, functions, cardinality.

**300. History of Mathematics.** (3:3:0) F, W, Su Independent Study also. Prerequisite: Math 112.
Development of mathematics, emphasizing underlying principles and motivations.

**302. Survey of Geometry.** (3:3:0) F, W, Su Independent Study also. Prerequisite: Math 112, 190.
Logical structure of Euclidean, non-Euclidean, and finite geometries.

**305. Basic Concepts of Mathematics.** (4:4:0) F, W, Sp, Su Independent Study also. Prerequisite: Math 110.
Logic and number theory, number and numeration systems, informal geometry, and probability. Required of prospective elementary school teachers.

**306. Concepts of Mathematics.** (3:3:0) F, W, Sp, Su Independent Study also. Prerequisite: Math 305.
Modular arithmetic, real numbers, complex numbers, relations and functions, informal geometry, and consumer math. For elementary teacher certification. Required of prospective elementary school teachers.

**311. Introduction to Numerical Methods.** (3:3:0) F, W, Sp Prerequisite: calculus and knowledge of a programming language.
Root finding, interpolation, curve fitting, numerical differentiation and integration, multiple integrals, direct solvers for linear systems, least squares, rational approximations, fourier and other orthogonal methods.

**312, 313. Advanced Engineering Mathematics.** (3:3:0 ea.) F, W, Sp (312), Su (313) Prerequisite: Math 113 or equivalent.
Ordinary differential equations, linear algebra, vector calculus, and introduction to partial differential equations. Not applicable for the math minor.

**315, 316. Theory of Analysis.** (3:3:0 ea.) 315: F, W; 316: W Prerequisite: for 315: Math 113, 190; for 316: Math 315, 343.
Rigorous treatment of calculus of single and several variables. Topics include uniform continuity, metric spaces, Riemann integral, implicit function theorem, and integral theorems of vector calculus.

**323. Introduction to Partial Differential Equations.** (3:3:0) W, Su Prerequisite: Math 313 or 434.
Boundary value problems; transform methods; Fourier series; Bessel functions; Legendre polynomials.

**332. Introduction to Complex Analysis.** (3:3:0) F, W, Sp Prerequisite: Math 344 or 316.
Complex algebra, analytic functions, integration in the complex plane, infinite series, theory of residues, conformal mapping.

**343. Elementary Linear Algebra.** (3:3:0) F, W, Sp, Su Prerequisite: Math 112 or 119.
Linear systems, matrices, vectors and vector spaces, linear transformations, determinants, inner product spaces, eigenvalues, and eigenvectors.

**344. Calculus of Several Variables.** (3:3:0) F, W, Sp, Su Prerequisite: Math 113, 343.
Partial differentiation, the Jacobian matrix, and integral theorems of vector calculus.

**350. Combinatorics.** (3:3:0) Prerequisite: Math 343, 371.
Permutations, combinations, recurrence relations, applications.

**355. Graph Theory.** (3:3:0) Prerequisite: Math 343.
Maps, graphs and digraphs, coloring problems, applications.

**371, 372. Abstract Algebra.** (3:3:0 ea.) 371: F, W, Sp; 372: W Prerequisite: for 371: Math 343; for 372: Math 371.
Groups, rings, fields, vector spaces, linear transformations, matrices, field extensions, etc.

**387. Number Theory.** (3:3:0) Prerequisite: Math 343, 371.
Foundations; congruences; quadratic reciprocity; unique factorization, prime distribution or Diophantine equations.

**391R, 392R. Seminar in Mathematics.** (1:1:0 ea.) 391R: F; 392R: W
Topics from classical problems of antiquity, combinatorial mathematics, graph theory, real functions, number theory, functional equations.

**399R. Cooperative Education.** (1–9:9:0 ea.) On dem.
On-the-job experience.

**411. Numerical Methods.** (3:3:0) W, Su Prerequisite: Math 311 or 312.
Iterative solvers for linear systems, eigenvalue, eigenvector approximations, numerical solutions to nonlinear systems, numerical techniques for initial and boundary value problems, elementary solvers for PDEs.

**434. Ordinary Differential Equations.** (3:3:0) F, W, Sp, Su Prerequisite: Math 113, 343.
Methods and theory of ordinary differential equations. Credit not given for both Math 312 and 434.

**451R. Topics in Geometry.** (3:3:0 ea.) On dem. Prerequisite: Math 302, 343, or equivalent.
Topics selected from the various aspects of synthetic, analytic, algebraic, and differential geometry.

**480. Mathematical Models.** (3:3:0) On dem. Prerequisite: Math 311, 343, 344; 313 or 434.
Construction, solution, and interpretation of discrete and continuous models applied to problems in the physical, natural, and social sciences.

**495R. Readings in Mathematics.** (1–2:0:3 ea.) F, W, Sp, Su Prerequisite: instructor's consent.
Directed readings beyond the scope of usual undergraduate courses.

**499R. Senior Thesis.** (1–3:0:3 ea.) F, W, Sp, Su

## 500-Level Graduate Courses (available to advanced undergraduates)

**501. Real Numbers.** (3:3:0) Alt. Su Prerequisite: Math 371.
Extensive examination of various axiomatic descriptions of real numbers and interrelationships among these descriptions.

**502. Set Theory.** (3:3:0) Alt. Su Prerequisite: Math 371.
Zermelo-Fraenkel axioms for set theory, the axiom of choice, ordinal and cardinal numbers, and algebra of sets.

**511. Numerical Methods for Partial Differential Equations.** (3:3:0) W, Sp Prerequisite: Math 311, 343; 313 or 434. Recommended: Math 323.
Finite difference and finite volume methods for partial differential equations. Stability, consistency, and convergence theory.

**512. Numerical Analysis.** (3:3:0) Prerequisite: Math 311, 343, or instructor's consent.
Numerical matrix algebra, orthogonalization and least squares methods, unsymmetric and symmetric eigenvalue problems, iterative methods, Lanczos methods, advanced solvers for partial differential equations.

**513R. Advanced Topics in Applied Mathematics.** (3:3:0 ea.) On dem. Prerequisite: instructor's consent.

**521, 522. Methods of Applied Mathematics.** (3:3:0 ea.) 521:F; 522:W Prerequisite: Math 434.
Survey of current methods, continuous and discrete, including linear algebra, estimation, differential equations of equilibrium, eigenvalue and initial value problems; finite element, spectral, transform, and difference methods; Fourier series, the Fourier matrix, fast Fourier transform; convolution.

**529R. Topics in Mathematics Education.** (3:0:0 ea.) On dem. Prerequisite: instructor's consent.
Current research and curriculum in mathematics education nationally and internationally; research techniques and interpretation.

**530. Calculus of Variations.** (3:3:0) On dem. Prerequisite: Math 313 or 434; 343. Recommended: Math 315, 323.
Euler-Lagrange equation, sufficient conditions, Hamilton's principle of least action, Dirichlet's principle; applications to mechanics, geometry, economics, eigenvalue problems, direct methods.

**532. Complex Analysis.** (3:3:0) Prerequisite: Math 332 or permission of instructor.
Introduction to theory of complex analysis at beginning graduate level. Topics: Cauchy integral equations, Riemann surfaces, Picard's theorem, etc.

**541, 542. Real Analysis.** (3:3:0 ea.) F, W Prerequisite: Math 315, 343; 316 or 344.
Rigorous treatment of differentiation and integration theory; Lebesque measure; Banach spaces.

**543. Advanced Probability.** (3:3:0) Prerequisite: Math 344, Stat 341.
Advanced combinatorial methods, random walk, Markov chains, and stochastic processes.

**547. Partial Differential Equations.** (3:3:0) Prerequisite: Math 434; 344 or 316.
Topics from elliptic equations, heat equations, wave equations, stability, Fourier methods, energy methods, existence of solutions, etc.

**551, 552. Introduction to Topology.** (3:3:0 ea.) F, W Prerequisite: Math 315.
Axiomatic treatment of linearly ordered spaces, metric spaces, arcs, and Jordan curves; types of connectedness.

**585. Matrix Analysis.** (3:3:0) Prerequisite: Math 343.
Special classes of matrices, canonical forms, matrix and vector norms, localization of eigenvalues, matrix functions, applications.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Mathematics Faculty

**Orson Pratt Professor**
Cannon, James W. (1986) BA, PhD, U. of Utah, 1967, 1969.

**Professors**
Baker, Roger C. (1991) BSc, PhD, U. of London, England, 1968, 1971.
Barrett, Wayne Walton (1981) BS, U. of Utah, 1968; MS, PhD, New York U., 1975, 1975.
Bates, Peter W. (1984) BS, Queen Mary Coll., U. of London, England, 1969; PhD, U. of Utah, 1976.
Chatterley, Louis J. (1962) BS, Brigham Young U., 1955; MS, U. of Utah, 1962; PhD, U. of Texas, Austin, 1972.
Crawley, Peter L. (1971) BS, PhD, California Inst. of Technology, 1957, 1961.
Fearnley, Lawrence (1957) BS, U. of London, 1953; PhD, U. of Utah, 1959; PhD, U. of London, 1970.
Forcade, Rodney W. (1981) BS, MS, U. of Chicago, 1961, 1963; PhD, U. of Washington, 1971.
Garner, Lynn E. (1963) BS, Brigham Young U., 1962; MA, U. of Utah, 1964; PhD, U. of Oregon, 1968.
Gill, Gurcharan S. (1960) BS, Brigham Young U., 1958; M.S, PhD, U. of Utah, 1960, 1965.
Hansen, Richard A. (1967) BS, MS, PhD, U. of Utah, 1959, 1961, 1965.
Jamison, Ronald D. (1963) BS, Brigham Young U., 1957; PhD, U. of Utah, 1965.
Lamoreaux, Jack W. (1968) BS, Brigham Young U., 1960; MS, PhD, U. of Utah, 1964, 1967.
Lang, William E. (1989) BA, Carleton Coll., 1974; MS, Yale U., 1975; PhD, Harvard U., 1978.
Peterson, John Milo (1965) BS, MEd, Utah State U., 1961, 1964; EdD, Utah State U., 1966.
Pollington, Andrew D. (1982) BS, MS, PhD, U. of London, 1975, 1976, 1978.
Robinson, Donald W. (1956) BS, MA, U. of Utah, 1948, 1952; PhD, Case Inst. of Technology, 1956.
Smith, William V. (1985) BS, PhD, U. of Utah, 1973, 1978.
Snow, Donald Ray (1969) BA, BS, U. of Utah, 1959, 1959; MS, MS, PhD, Stanford U., 1960, 1962, 1965.
Speiser, Robert David (1984) AB, Columbia Coll., 1965; PhD, Cornell U., 1970.
Wright, David G. (1983) BS, Brigham Young U., 1970; MA, PhD, U. of Wisconsin, Madison, 1972, 1973.

**Associate Professors**
Armstrong, Gerald M. (1970) BS, MS, Brigham Young U., 1963, 1965; PhD, U. of Wisconsin, Madison, 1971.

Chahal, Jasbir S. (1981) MA, Punjab U., India, 1970; PhD, Johns Hopkins U., 1979.
Garbe, Douglas G. (1963) AS, Snow Coll., 1956; BS, Brigham Young U., 1962; MS, U. of Oregon, 1967; PhD, U. of Texas, Austin, 1973.
Humphries, Stephen P. (1987) BSc, MSc, PhD, U. of Wales, 1974, 1978, 1983.
Lu, Kening (1990) BS, MS, Sichuan U., China, 1982, 1985; PhD, Michigan State U., 1988.
Skarda, R. Vencil (1965) BA, Pomona Coll., 1961; MS, PhD, California Inst. of Technology, 1964, 1965.
Tolman, L. Kirk (1965) BS, MS, Brigham Young U., 1960, 1961; PhD, U. of New Mexico, 1972.
Walter, Charles N. (1969) BA, MA, PhD, U. of New Mexico, 1963, 1965, 1970.
Wynn, Jan Eugene (1966) BS, BS, U. of Idaho, 1962, 1962; MS, Utah State U., 1965; PhD, Colorado State U., 1972.

**Associate Teaching Professor**

Taylor-Ortega, Jacqueline (1978) BS, Idaho State U., 1966; MA, EdD, Brigham Young U., 1976, 1987.

**Assistant Professors**

Brady, Thomas G. (1993) BA, Trinity C., 1982; PhD, Cornell U., 1988.
Clark, David A. (1993) BA, U. of Utah, 1985; MS, PhD, McGill U., Canada, 1988, 1992.
Conner, Gregory R. (1992) BA, Humboldt State U., 1987; MS, PhD, U. of Utah, 1989, 1992.
Grant, Christopher P. (1993) BS, MS, Brigham Young U., 1986, 1988; PhD, U. of Utah, 1991.
Lawlor, Gary R. (1991) BS, Brigham Young U., 1984; PhD, Stanford U., 1988.
Lundquist, Michael E. (1990) BA, St. Olaf Coll., 1985; MS, PhD, Clemson U., 1987, 1990.
McKay, Steven (1994) BS, MS, Utah State U., 1983, 1985; PhD, Colorado State U., 1990.
Ouyang, Tiancheng (1992) MS, Naukai U., China, 1981; PhD, U. of Minnesota, 1989.
Williams, Steven R. (1993) BS, MS, Brigham Young U., 1980, 1983; PhD, U. of Wisconsin, Madison, 1989.

**Emeriti**

Clawson, Robert G. (1979) AA, Pasadena City Coll., 1960; BA, California State U., Los Angeles, 1963; MS, U. of South Dakota, 1971.
Fletcher, Harvey J., Jr. (1980) BS, Massachusetts Inst. of Technology, 1944; MS, California Inst. of Technology, 1948; PhD, U. of Utah, 1954.
Gee, Burton C. (1960) BS, Brigham Young U., 1951; MS, EdD, Oregon State U., 1958, 1965.
Haupt, Floyd E. (1954) BS, MS, U. of Arizona, 1947, 1948.
Hillam, Kenneth L. (1957) BS, MS, U. of Utah, 1949, 1956; PhD, U. of Colorado, 1962.
Larsen, Kenneth M. (1960) BA, U. of Utah, 1950; MA, Brigham Young U., 1956; PhD, U. of California, Los Angeles, 1964.
Moore, Hal G (1961) BS, MS, U. of Utah, 1952, 1957; PhD, U. of California, Santa Barbara, 1967.
Wickes, Harry E. (1957) BS, MEd, Brigham Young U., 1950, 1954; MEd, Harvard U., 1962; EdD, Colorado State U., 1967.
Wight, Theodore A. (1963) BS, MS, EdD, U. of Utah, 1955, 1964, 1969.

# Mechanical Engineering

Alan R. Parkinson, Chair
242-C CB, PO Box 24106, (801) 378-2625

College of Engineering and Technology Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

The degree programs in the Department of Mechanical Engineering carry special enrollment limitations at the junior level. Please see Professional Program Acceptance below and the college advisement center for specific details.

## The Discipline

Mechanical engineers work with concepts, ideas, and products that are primarily mechanical or energy related. Mechanical engineering is a broad discipline that prepares a person to contribute in a wide range of fields such as aerospace, computer graphics, power generation, machine tools, petroleum, agricultural and construction equipment, medicine, government, and all types of transportation. A mechanical engineer may work in research, design, analysis, manufacturing, testing, operations, sales, or management. Engineers use critical problem-solving methods and basic principles of mathematics and science to creatively solve problems. Computers, especially, have freed engineers to engage in stimulating development of creative ideas.

The curriculum in mechanical engineering is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (ABET).

## Career Opportunities

Career opportunities for mechanical engineering graduates are nearly limitless because of the breadth of the preparation and the pervasive influence in everyday life of the basic principles applied by mechanical engineers. Mechanical engineering is a truly creative profession. Mechanical engineers may solve problems or become involved in transportation industries; aircraft and spacecraft design; manufacturing processes; product safety and reliability; solar energy; electronic equipment packaging and cooling; power plant design; jet engines and train, truck, and automobile engines; environmental protection; artificial intelligence; robotics; medical and hospital equipment; new material development and applications; technical writing; and a myriad of other examples. Indeed, anything that is mechanical or must interact with another machine or a human being is within the broad scope of mechanical engineering.

The breadth of background an undergraduate mechanical engineering major gains provides perspective and flexibility in choosing a career path. Mechanical engineering prepares one well for advanced studies in the field as well as in a variety of other disciplines, including law, medicine, and business administration. Perhaps most important to graduates are the problem-solving strategies and thinking processes acquired in mechanical engineering. One learns how difficult and complex problems were solved by some of history's most capable and astute thinkers and develops ways to approach problems, to correctly analyze them, and to formulate workable solutions. Such skills are necessary to succeed in any area of endeavor.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Mechanical Engineering
Emphasis (optional):
International

For help or information on the undergraduate programs, please see your college advisement center.

Students interested in pursuing Honors for this program should consult with the college advisement center.

## Graduate Programs and Degrees

MEM Engineering Management
MS Mechanical Engineering
PhD Engineering

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

Any student may choose to major in mechanical engineering and to enroll in all classes in the preprofessional program (items 1 and 2 under BS Mechanical Engineering Major Requirements).

### Professional Program Acceptance

Students must be accepted into the professional program before they may take upper-division mechanical engineering courses (items 3 and 4 in major requirements). To apply, students must have completed the preprofessional requirements (item 1 in major requirements) with a minimum grade of C– in each course. Acceptance is based primarily upon the grade point average received in preprofessional and other major courses, including all grades received in repeated courses. Normal application deadlines are June 1, October 1 and February 1. Transfer students may be considered at other times provided they have been admitted to the university. Application forms are available in the college advisement center.

### Academic Standards and Continuance

On gaining acceptance into the professional program, students must maintain a minimum university cumulative grade point average of 2.0. Students who accumulate more than 6 credit hours of grades below C– in professional program courses may not continue in the program or graduate until courses are retaken to reduce the unacceptable credit to 6 or fewer hours. A professional program course may not be retaken more than once.

## BS Mechanical Engineering (92 hours*)

### Major Requirements

1. Complete the following preprofessional requirements:
   Math 112, 113.
   Phscs 122 (students without high school physics should start with Phscs 121).
   CEEn 103.
   Chem 105.
   MeEn 172, 191.
2. Complete the following supporting courses:
   Math 312, 313.
   Phscs 221.
   CEEn 203, 204.
   ECEn 301R (3 hours).
   Engl 316.
   Stat 361.
   MeEn 250, 273.
   MFE 232.
3. Complete the following professional requirements:
   MeEn 312, 321, 322, 337, 363, 372, 435, 440, 475, 476.
4. Complete 9 hours (three courses) of technical electives. The purpose of these courses is to provide the student with advanced engineering concepts and methods. The courses are normally 500-level mechanical engineering courses (limited credit in MeEn 595R, Special Topics in Mechanical Engineering, with department approval). Other courses may be used within the following limitations:
   a. At least two courses must be in mechanical engineering.
   b. At least two courses must be at the 500-level.
   c. No courses may be below the 300-level.
   d. All courses must be of an acceptable level from the following areas: engineering, technology, mathematics, statistics, natural science, and life science.
   e. No course may duplicate another course used to satisfy graduation requirements.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (102.5–104.5 hours*)

### Emphasis Requirements

1. Complete the requirements for the mechanical engineering program as outlined above.
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. After consulting with the college advisement center, select a foreign literature course or a classical civilization course.
   Or select one course from the following:
   Art 210.
   FnArt 270R.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
5. An international "live-in" experience is required. It may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center for International Studies and college personnel, or (3) a prior living experience, such as a foreign mission.
6. Write a senior paper.

### Recommended

Proficiency in a foreign language is strongly suggested.

*Hours include courses that may fulfill GE or university requirements.

## Mechanical Engineering (MeEn)

### Undergraduate Courses

**170. Technical Drawing.** (1–3:3:0) F Independent Study also.
Technical drawing fundamentals, emphasizing manual drafting methods, industrial symbolism and practices, perspective, and technical illustration techniques. Introduction to computer-aided drafting.

**172. Engineering Graphics—Principles and Applications.** (3:3:0) F, W, Sp Prerequisite: engineering and technology majors only.
Comprehensive applications of CAD-based national (ANSI) and international (ISO) graphics standards, including coordinate and geometric dimensioning and tolerancing practices, manufacturing, and product verification procedures.

**173. Engineering Drafting with CAD Applications.** (3:3:0) F, W
Structural and component drafting, emphasizing computer-automated (CAD) systems. Concepts include applied and descriptive geometry, multiview representation, sectional views, dimensioning practices, and axonometric sketching.

**191. New Student Seminar.** (0:1:0) F, W
Topics of special interest to new mechanical engineering majors. Required of all first-semester freshman and sophomore transfer students.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: consent of both department chair and cooperative education coordinator.
Work experience evaluated by supervisor and posted on student's transcript.

**250. (MeEn-MFE) Science of Engineering Materials.** (3:3:0) F, W, Sp Prerequisite: Chem 105 or 111.
Principles and properties of solid materials and their behavior as applied to engineering.

**273. Introduction to Scientific Computing and Computer-Aided Engineering.** (3:2:3) F, W Prerequisite: Math 113; concurrent registration in Math 312.
Computer programming for engineers taught in context of solving physical systems using numerical methods. Student will program solutions using the C language, spreadsheets, symbolic solvers, etc.

**312. Fluid Mechanics.** (3:3:1) F, W, Sp Prerequisite: MeEn 273, 321, 363.
Physics and modeling of fluid flow; fluid statics, dimensional analysis, momentum, internal and external viscous flow, compressible flow, and fluid machinery.

**321. Thermodynamics.** (3:3:0) F, W, Sp Prerequisite: Phscs 221, Math 313.
Fundamentals of thermal energy and work; principle of state, conservation of mass, conservation of energy, increase of entropy principle; application to thermal and mechanical processes.

**322. Applied Thermodynamics.** (3:3:1) F, W, Su Prerequisite: MeEn 273, 321, 363.
Applied engineering thermodynamics including air and steam power cycles, thermodynamic relations, and introduction to combustion and equilibrium chemical reactions.

**337. Kinematics.** (3:2:3) F, W, Su Prerequisite: CEEn 204, Math 313, MeEn 273.
Relative motion of links in mechanisms; velocities and accelerations of machine parts; rolling contact; cams; synthesis of mechanisms. Includes computer-aided engineering techniques.

**352. Engineering Materials.** (3:2:2) F, Sp Prerequisite: MeEn 250.
Integrated approach to engineering materials; properties and processing of metals, ceramics, polymers, and composites.

**363. Elementary Instrumentation.** (3:2:3) F, W, Sp Prerequisite: Phscs 221, Math 313.
Fundamentals of mechanical measuring systems; sensors, signal conditioning, statistical error analysis, dynamic response, standards.

**364. Instrumentation Systems Design.** (3:2:3) W Prerequisite: MeEn 363.
Design and analysis of instrumentation systems, fundamental sensor characteristics, computer data acquisition, time and frequency domain modeling.

**371. Computer-Aided Engineering Applications.** (3:3:0) F, W, Su Prerequisite: MeEn 172, 273, CEEn 203, 204.
Application of computer-aided engineering tools to design; 3-D geometry and solid modeling; applying finite element analysis, kinematic analysis, and other software to engineering analysis.

**372. Analysis and Manufacture of Machine Components.** (3:2:3) F, W, Sp Prerequisite: CEEn 203, MeEn 172, 250, 273.
Theory, design, and manufacture of machine components; application of computer-aided engineering methods.

**401. Introduction to Thermal Engineering.** (3:3:0) F, W Prerequisite: Math 113, Phscs 221. For nonmajors.
First and second laws of thermodynamics, ideal power cycles, pipe flow, lift, drag, pumps, fans, modes of heat transfer; software applications.

**422. Elementary Combustion Systems.** (3:3:1) F Prerequisite: Chem 105, MeEn 322, or instructor's consent.
Introduction to first and second law ideal gas combustion systems along with elementary models of homogeneous and heterogeneous premixed and/or diffusion flames.

**435. System Dynamics Modeling/Vibrations.** (3:3:1) F, W, Su Prerequisite: Math 313, MeEn 273, 363, CEEn 204.
Transient and frequency response of dynamic systems, modal analysis, vibration isolation, model approximation, computer simulations.

**440. Heat Transfer.** (3:3:1) F, W, Sp Prerequisite: MeEn 312.
Fundamentals of heat transfer; basics of conduction, convection, and radiation; mass transfer by analogy; heat exchangers; computer applications to practical design and analysis problems.

**473. Design for Manufacture.** (3:2:3) W Prerequisite: MeEn 372.
Manufacturing considerations in machine design, tolerances, surface finish, design practice for manufacturing processes. Applications of computer-aided engineering methods.

**475, 476. (MeEn-MFE) Integrated Product and Process Engineering 1, 2.** (3:2:3 ea.) F, W Prerequisite: senior standing in mechanical or manufacturing engineering or related discipline with instructor's consent.
Comprehensive two-semester design experience from conception to manufacturing planning and prototype; product development process; economic and manufacturing considerations. Intellectual property assignment agreement required.

**499R. Honors Thesis.** (1–6:0:0 ea.) F, W, Sp, Su

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. (MeEn-CEEn) Design and Materials Applications.** (3:3:0) W Prerequisite: CEEn 203; MeEn 372 or CEEn 321.
Applied and residual stress; materials selection; static, impact, and fatigue strength; fatigue damage; surface treatments; elastic deflection and stability—all as applied to mechanical design.

**501. (MeEn-CEEn) Stress Analysis and Design of Mechanical Structures.** (3:3:0) Sp Prerequisite: CEEn 321 or MeEn 372.
Stress analysis and deflection of structures; general bending and torsion, with computer applications to mechanical and aerospace structure design.

**502. (MeEn-CEEn) Plasticity and Fracture Mechanics.** (3:3:0) Su on dem. Prerequisite: MeEn-CEEn 503.
Continuum theory of plasticity, linear elastic fracture mechanics, introduction to structured continuum theories for polycrystalline media.

**503. (MeEn-CEEn) Theory of Elasticity.** (3:3:0) W on dem. Prerequisite: CEEn 203, Math 313.
Tensor notation, stress and deformation tensors, constitutive equations, field equations; plane-stress/plane strain, axisymmetric, thermoelasticity, and large deformation problems.

**504. (MeEn-CEEn) Matrix Structural Analysis.** (3:3:0) W Prerequisite: CEEn 321 or MeEn 372.
Matrix notation, principle of virtual forces, flexibility method, principle of virtual displacements, stiffness method, general purpose computer programs for structural analysis.

**506. (MeEn-CEEn) Introduction to the Finite Element Method.** (3:3:0) F Prerequisite: CEEn 321 or MeEn 372; MeEn 501 or MeEn-CEEn 504 or instructor's consent.
Finite element stress analysis; mathematical foundations; simplex, isoparametric, bending, and axisymmetric elements; basic 2-D and 3-D modeling techniques; use of FEM computer software and hardware.

**507. (MeEn-CEEn) Advanced Finite Element Analysis.** (3:3:0) W Prerequisite: CEEn-MeEn 506.
Complex 3-D finite modeling, multiple element types, mesh generation techniques. Application to thermal stress, nonlinear materials, large deformations. Use of CAE software.

**508. (MeEn-CEEn) Dynamics of Structures and Mechanical Systems.** (3:3:0) F Prerequisite: Math 313; CEEn 321 or MeEn 372; MeEn-CEEn 504.
Dynamic analysis of single and multi-degree-of- freedom systems, Ritz approximation, frequency domain analysis, geometric nonlinearity, material nonlinearity.

**509. (MeEn-CEEn) Spectral Analysis of Dynamic Systems.** (3:3:0) W Prerequisite: Math 313, CEEn 204.
Vibrations of elastic bodies and of systems with multiple degrees of freedom; random vibration. Computer-aided vibration testing and analysis.

**510. Compressible Fluid Flow.** (3:3:1) F Prerequisite: MeEn 312.
One-dimensional analysis of compressible flow with area change, friction, heat transfer, shock waves, and combined effects, including experimental methods.

**511. Intermediate Compressible Flow.** (3:3:0) W Prerequisite: MeEn 510.
Subsonic, transonic, and supersonic multidimensional flow. Basic equations; small perturbation theory; method of characteristics for steady and unsteady flow.

**512. Boundary Layer Theory.** (3:3:0) W Prerequisite: MeEn 312 or instructor's consent.
The stress tensor; Navier-Stokes equations; exact solutions for classical flows; Prandtl's boundary layer equations; separation; Karman-Pohlhausen integral methods; approximate solutions, numerical solutions, and applications.

**515. Applied Aerodynamics and Flight Mechanics.** (3:3:0) Sp Prerequisite: MeEn 312.
Modern applied aerodynamics, including performance, stability, and control of aerospace vehicles.

**521. Energy Resources and Conversion.** (3:3:0) On dem. Prerequisite: MeEn 322 or instructor's consent.
New and conventional energy resources and energy conversion systems using the principles of thermodynamics.

**531. Design of Control Systems.** (3:3:0) W Prerequisite: MeEn 435.
Classical frequency response and time domain design of control systems. State variable control and computer simulation of control systems.

**534. Dynamic System Analysis and Design.** (3:3:1) F Prerequisite: MeEn 435.
Lumped models of mechanical, electrical-mechanical, fluid, and thermal systems; graphic models; physical system response; computer simulation; design of dynamic systems.

**537. Advanced Mechanisms.** (3:3:0) W Prerequisite: MeEn 337.
Kinematics and dynamics of advanced mechanisms such as robots with computer simulation of mechanism motion.

**541. Numerical Heat Transfer.** (3:3:0) W Prerequisite: MeEn 440.
Heat transfer analysis by numerical methods. Finite difference and finite element methods, stability and error analysis, using digital computers.

**542. Design of Heat Transfer Systems.** (3:3:0) W Prerequisite: MeEn 440.
Design of devices where heat transfer is a predominant effect; practical problems from industry; energy conservation economics.

**553. (MeEn-MFET) Mechanical Behavior of Polymers.** (3:3:0) W Prerequisite: CEEn 203; MFE 355 or instructor's consent.
Generalized elasticity relations, viscoelasticity, yielding and fracture, crazing, rubber elasticity, anisotropic behavior, processing effects on optical and other properties.

**554. Advanced Manufacturing Processes.** (3:3:0) W Prerequisite: MeEn 250 or instructor's consent.
Analysis of forming, machining, welding, and casting processes, emphasizing metal microstructures. Selection of process parameters, considering economics and material properties.

**556. Composite Material Design.** (3:3:0) W Prerequisite: MeEn 250.
Macro- and micro-mechanical analysis and design of uni- and multi-directional composite materials.

**557. Corrosion.** (3:3:0) F Prerequisite: Chem 105.
Basic principles, eight common forms of corrosion, testing, materials, applications, modern theory, and high temperature metal-gas reactions.

**570. (MeEn-CEEn) Computer-Aided Engineering Software Design.** (3:3:0) F Prerequisite: C, or similar computer language background.
Programming techniques and structure for interactive engineering design software. Use of engineering library utility routines for computer graphics, data access, and user interface. Term project required.

**571. (MeEn-CEEn) Engineering Computer Graphics and Software Design.** (3:3:0) W Prerequisite: Fortran, C, or similar computer language background.
Application of modern computer graphics techniques to engineering problems; 2-D and 3-D transformations, perspective, hidden surface removal, lighting and shading. Graphics data structures, standards, device independency. Software design methodology. Term project required.

**572. (MeEn-CEEn) Computer-Aided Geometric Design.** (3:3:0) F Prerequisite: C, or similar computer language background.
Mathematical theory of free-form curves and surfaces and solid geometric modeling. Bezier and B-spline curve and surface theory, parametric and implicit forms, intersection algorithms, topics in computer algebra, free-form deformation. Several programming projects.

**573. CAD Software Development.** (3:3:1) F Prerequisite: advanced C.
Theory and development of CAD 2-D and 3-D systems, including programming of curves, surfaces, solids, data fitting, and CAD interfaces.

**574. Advanced Continuum Mechanics and Geometric Modeling.** (3:3:1) W Prerequisite: Math 313 or equivalent.
Fundamentals of continuum mechanics related to advanced geometric modeling. Solution for PDE; advanced geometric modeling in differential geometry, topology, and computational geometry; advanced design methods.

**575. (MeEn-CEEn) Optimization Techniques in Engineering.** (3:3:0) W Prerequisite: Math 321 and Fortran, C, or similar computer language.
Application of computer optimization techniques to constrained engineering design. Theory and use of state-of-the-art computer routines. Robust design methods.

**576. Advanced Methods for Engineering Design.** (3:3:0) W Prerequisite: MeEn 475.

Emerging design methodology and design strategies for complex systems, including decomposition methods, sensitivity analysis, robust design, and expert systems in engineering design.

**581. Internal Combustion Engines.** (3:2:3) F Prerequisite: MeEn 322.

Computer modeling of performance and fuel economy, including exhaust emissions of spark-ignition and compression-ignition engines. Theoretical and actual cycles. CFR and production engine dynamometer testing.

**584. Gas Turbine and Jet Engine Design.** (3:3:0) W Prerequisite: MeEn 312, 322.

Design and synthesis of land-based and aircraft gas turbines utilizing fluid flow and thermodynamic fundamentals. Extensive discussion of turbojet, turbofan, and turboprop engines.

**591R. Seminar.** (1:1:0 ea.) F, W

Graduate seminar to develop oral and written skills for presentation of current topics in mechanical engineering.

**595R. Special Topics in Mechanical Engineering.** (1–18:2:0 ea.) F, W, Sp, Su Prerequisite: department chair's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Mechanical Engineering Faculty

**Professors**

Chase, Kenneth W. (1968) BES, MS, Brigham Young U., 1962, 1964; PhD, U. of California, Berkeley, 1972.

Free, Joseph C. (1961) BES, Brigham Young U., 1958; MS, California Inst. of Technology, 1961; PhD, Massachusetts Inst. of Technology, 1967.

Germane, Geoffrey J. (1979) BS, MS, Rose-Hulman Inst. of Technology, 1972, 1975; PhD, Brigham Young U., 1978.

Heaton, Howard S. (1963) BES, U. of Southern California, 1957; MS, PhD, Stanford U., 1959, 1963.

Mortensen, Kay S. (1968) BS, MS, Utah State U., 1962, 1963; PhD, U. of Utah, 1967.

Parkinson, Alan R. (1982) BS, Brigham Young U., 1977; MS, PhD, U. of Illinois, 1979, 1982.

Raisor, E. Max (1968) BS, MS, Brigham Young U., 1968, 1975.

Red, W. Edward (1983) BA, BSME, Rice U., 1965; PhD, Arizona State U., 1972.

Smith, Craig C. (1980) BES, MS, Brigham Young U., 1969, 1970; PhD, Massachusetts Inst. of Technology, 1973.

Ulrich, Richard D. (1968) BS, MS, PhD, Purdue U., 1954, 1955, 1959.

**Associate Professors**

Eastman, Paul F. (1985) BA, PhD, U. of Utah, 1960, 1965.

Evans, Mark S. (1995) BS, U. of Utah, 1982; MS, PhD, Rensselaer Polytechnic Inst., 1984, 1987.

Magleby, Spencer P. (1989) BS, MS, Brigham Young U., 1983, 1983; PhD, U. of Wisconsin, Madison, 1988.

McQuay, Mardson Queiroz (1987) BS, MS, Brigham Young U., 1983, 1984; PhD, Carnegie-Mellon U., 1987.

Simmons, Val E. (1969) BS, U. of Utah, 1964; MS, Brigham Young U., 1967; PhD, Utah State U., 1970.

Sorensen, Carl D. (1987) BS, Brigham Young U., 1981; PhD, Massachusetts Inst. of Technology, 1985.

Webb, Brent W. (1986) BS, MS, Brigham Young U., 1981, 1982; PhD, Purdue U., 1986.

**Assistant Professors**

Cox, Jordan (1986) BA, MS, Brigham Young U., 1983, 1984; PhD, Purdue U., 1991.

Daines, Russell L. (1995) BS, MS, Brigham Young U., 1988, 1990; PhD, Pennsylvania State U., 1995.

Howell, Larry L. (1994) BS, Brigham Young U., 1987; MS, PhD, Purdue U., 1991, 1993.

Jensen, C. Gregory (1983) BS, MS, Brigham Young U., 1979, 1982; PhD, Purdue U., 1993.

McLain, Timothy W. (1995) BS, MS, Brigham Young U., 1986, 1987; PhD, Stanford U., 1995.

Tree, Dale R. (1994) BS, Brigham Young U., 1986; MS, Purdue U., 1988; PhD, U. of Wisconsin, Madison, 1992.

**Adjunct Faculty**

Beckwith, Scott W. (1990) BS, Texas A & M U., 1964; MS, California Inst. of Technology, 1965; PhD, Texas A & M U., 1974.

Simonsen, John M. (1954) BSME, U. of Utah, 1950; MSME, PhD, Purdue U., 1952, 1955.

Woolley, Ronald L. (1983) BES, MS, Brigham Young U., 1966, 1968; PhD, Stanford U., 1974.

**Emeriti**

Andersen, Blaine W. (1970) BS, U. of Utah, 1949; MS, PhD, U. of Illinois, 1951, 1953.

Cannon, John N. (1957) BS, MS, U. of Utah, 1952, 1955; PhD, Stanford U., 1965.

Polve, James H. (1969) BS, U. of Utah, 1948; MS, Princeton U., 1951; PhD, U. of Arizona, 1966; ME, U. of Utah, 1954.

Tolman, Wilford J. (1960) BS, MS, Brigham Young U., 1960, 1964.

Wilkes, Doran F. (1958) BS, MS, Utah State U., 1951, 1955; EdD, U. of Missouri, Columbia, 1966.

Wille, Milton G. (1958) BA, BES, Brigham Young U., 1957, 1957; MS, California Inst. of Technology, 1958; PhD, U. of Michigan, 1964.

# Microbiology

Donald N. Wright, Chair
775 WIDB, PO Box 25253, (801) 378-2889

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

All degree programs in the Department of Microbiology are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

The Microbiology Department offers programs leading to specialization in immunology, virology, molecular biology, medical microbiology, microbial genetics, microbial physiology, clinical laboratory science, environmental and industrial microbiology, and general microbiology.

## Career Opportunities

Graduates are employed in a wide variety of positions in industry, hospitals, government agencies, and universities. Microbiology is an excellent preprofessional course of study for those interested in medicine, dentistry, law, or business.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Microbiology |
| | Emphasis (optional): Premedical-Predental Microbiology |
| BS | Biology Composite Teaching |
| BS | Clinical Laboratory Science |
| BS | Molecular Biology |
| BS | Honors in Microbiology and University Honors |
| BS | Honors in Molecular Biology and University Honors |
| BS-MS | Integrated Master's Program |
| Minors | Biology Teaching |
| | Microbiology |

For help or information on the undergraduate programs, please see your faculty advisor.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Microbiology |
| MS | Molecular Biology (collegewide interdisciplinary degree) |
| PhD | Microbiology |
| PhD | Molecular Biology (collegewide interdisciplinary degree) |

For more information see the 1996–97 BYU Graduate Catalog.

## BS Microbiology (69–74 hours*)

This is the preferred degree for microbiology majors who desire an advanced degree (master's or doctorate) in microbiology.

### Major Requirements

1. No more than 5 hours of D credit in required supporting courses and no grades lower than C– in microbiology will be accepted for graduation.
2. Students must complete a minimum of 9 credits in microbiology courses numbered 400 or higher while in residence.
3. Complete the following major requirements:
   Mcbio 130, 230, 265, 291, 351, 365, 491R.
4. Complete the following supporting courses:
   Chem 105, 106, 107, 351, 352, 481.
   Math 119.
5. Complete 2 hours of the following:
   Chem 353.
6. Select one course from the following:
   Chem 223, 226.
7. Select one of the following options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.

8. Select one of the following sets of courses:
   a. General:
      Mcbio 361, 402, 403, 404, 425, 481.
      Recommended electives:
      Mcbio 441, 442.
   b. Medical:
      Mcbio 317, 402, 403, 404, 423, 481.
      Recommended electives:
      Mcbio 391, 407, 425, 441, 442.
   c. Virology:
      Mcbio 402, 404, 425, 430, 481.
      Recommended electives:
      Mcbio 403, 441, 442, 504.
   d. Cell Biology and Immunology:
      Mcbio 402, 404, 430, 441, 442.
      Recommended electives:
      Mcbio 403, 502, 504.
   e. Environmental and Industrial:
      Mcbio 371, 425, 471, 481, 551.
      Recommended electives:
      AgHrt 514, CEEn 351, Mcbio 441, 442.

**Recommended Courses**

Qualified students who are contemplating an advanced degree in microbiology may substitute Math 112, 113, Chem 111, 112 for required courses.

*Hours include courses that may fulfill GE or university requirements.

## BS Microbiology: Premedical-Predental Emphasis

**(69–70 hours*)**

This emphasis is for individuals in premedical and predental programs who desire a strong background in microbiology or career alternatives in microbiology.

**Major Requirements**

1. No more than 5 hours of D credit in required supporting courses and no grades lower than C– in microbiology will be accepted for graduation.
2. Complete a minimum of 9 credits in microbiology courses numbered 400 or higher while in residence.
3. Complete the following core requirements:
   Mcbio 130, 230, 265, 291, 351 (5 hours), 365, 404.
4. Complete the following major courses:
   Mcbio 402, 403, 481.
5. Complete the following:
   Chem 105, 106, 107, 351, 352.
   Math 119.
6. Complete 2 hours of the following:
   Chem 353.
7. Select one of the following options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.
8. Premedical students complete 12 hours from the following:
   Chem 481.
   Mcbio 391.
   Zool 260, 317, 339, 380, 460, 475.
9. Predental students complete 12 hours from the following:
   Chem 481.
   Mcbio 391.
   Zool 260, 329, 429, 460, 475.

*Hours include courses that may fulfill GE or university requirements.

## BS Biology Composite Teaching (97–101 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in the major, and no more than 5 hours of D credit is allowed in required supporting courses.
2. Complete the following:
   Mcbio 130.
   Botny 105, 205, 475.
   Zool 204, 250, 261, 276, 344, 493.
3. Select one of the following options:
   **Either** Chem 101, 152, 281
   **Or** Chem 105, 106, 107, 351.
4. Complete the following:
   Geol 101.
   Math 110.
   Phscs 105, 106,
5. Complete the following:
   Mcbio 230, 265, 351 (3 hours), 402.
6. Complete the Professional Education Component (30–31 hours): See the Secondary Education section of this catalog for certification requirements.

**Recommended Courses:**

AgHrt 282, 283.
Botny 120, 210, 321, 331, 332, 480, 527.
Mcbio 311.
Range 225, 565.
Zool 312, 317, 330, 334, 350, 363, 380, 445, 446, 447, 460, 561.
Geol 103, 111, 112.
Math 111, 119.

*Hours include courses that may fulfill GE or university requirements.

## BS Clinical Laboratory Science (78 hours*)

This degree is for students who desire to practice medical technology in diagnostic laboratories or related options. The curriculum in clinical laboratory science is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

**Major Requirements**

1. No more than 5 hours of D credit in required supporting courses and no grades lower than a C– in microbiology will be accepted for graduation.
2. Students must complete a minimum of 9 credits in microbiology courses numbered 400 or higher while in residence.
3. Students desiring a minor in chemistry must take Chem 223.
4. Complete the following major courses:
   Mcbio 102, 130, 230, 265, 317, 351 (5 hours), 392, 393, 394, 395, 402, 403, 407, 420, 421, 491R.
5. Complete 2 hours from the following:
   Mcbio 399R.

6. Complete the following:
   Chem 105, 106, 107, 351, 352, 481.
   Math 110.
   Phscs 105.
   Stat 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Molecular Biology (67–68 hours*)

**Major Requirements**

1. No more than 5 hours of D credit in required supporting courses and no grades lower than C– in microbiology will be accepted for graduation.
2. Students must complete a minimum of 9 credits in microbiology courses numbered 400 or higher while in residence.
3. Complete the following core courses:
   Mcbio 130, 230, 265, 291, 351 (5 hours), 365, 404.
4. Complete the following major courses:
   Mcbio 425, 430, 441, 442, 491R.
5. Complete the following:
   Chem 105, 106, 107, 351, 352, 481.
6. Select one course from the following:
   Math 112 or 119.
7. Complete 2 hours of the following:
   Chem 353.
8. Select one of the following options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Microbiology and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BS Honors in Molecular Biology and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BS-MS Integrated Master's Program

**General Information**

The integrated microbiology program is a five-year curriculum during which students simultaneously work for both the BS and MS in microbiology. The purpose of this program is to increase flexibility of course scheduling, decrease the time normally necessary to complete both degrees independently, and to increase opportunity for student laboratory research.

**Major Requirements**

1. Be accepted into the program. Program applications must be received during the sixth semester of study. Students unable to complete all course requirements by the end of a total of five years' enrollment will not be accepted.
2. Have a minimum 3.3 cumulative GPA and no grade lower than a B in major or supportive science courses.
3. Participate in one semester of an approved teaching experience.
4. Write a thesis (standard university thesis or journal publication format).
5. Pass an oral examination on thesis and course work.

## Minor Biology Teaching (29–30 hours*)

1. Complete the following:
   Botny 105.
   Botny-Zool 250.
   Botny-Zool 475.
   Mcbio 221, 222.
   Zool 204, 276, 331.
2. Select one course from the following:
   Botny 205 or 210.
3. Select one course from the following:
   Zool 260 or 261.

*Hours include courses that may fulfill GE or university requirements.

## Minor Microbiology (15 hours)

Complete the following:
Mcbio 351 (5 hours), 402, 403, 404, 481.

## Microbiology (Mcbio)

### Undergraduate Courses

**102. Introduction to Clinical Laboratory Techniques.** (1:0:3)
Hospital laboratory techniques.

**130. General Biology.** (5:5:0) Prerequisite: department major.
Rigorous presentation of biological principles including sub-cellular, cellular, and organismic biology. Emphasis on energetics, evolution, diversity, genetics, ecology and biostructure. For bioscience majors.

**221. General Microbiology.** (3:3:0) Independent Study also. Honors also. Prerequisite: any chemistry course and any biology course.
Microbial world, emphasizing communicable diseases, their causes, and control. Recommended for students seeking a liberal education in microbiology who do not have the prerequisites to take the more advanced courses.

**222. General Microbiology Laboratory.** (1:0:2) Prerequisite: Mcbio 221 or concurrent registration.

**230. General and Molecular Genetics.** (4:4:0) Prerequisite: Mcbio 130.
General genetics and molecular biology of cell structure and function.

**265. Laboratory Methods.** (2:0:6) Prerequisite: Mcbio 130, Chem 105, 107, or equivalents.
Introduction to laboratory methodology used in microbiology, immunology, and molecular biology.

**291. Readings in Science.** (1:1:0) Prerequisite: Mcbio 130 or equivalent.
Introduction to scientific literature, library methods in science, and literature search techniques.

**311. Disease and Public Health.** (3:3:0)
A philosophical introduction to science of microbiology. Roles of individual and community in maintaining a healthful environment.

**317. (Micro-Zool) Medical Parasitology.** (3:2:3) Prerequisite: Biol 100 or equivalent.
Pathogenesis, diagnosis, and epidemiology of human parasitic diseases.

**342. Genetics and Cellular Biology 2.** (3:3:1) Prerequisite: Mcbio 341.
Continuation of Mcbio 341.

**343. Genetics and Cellular Biology Laboratory.** (1:0:3) Prerequisite: Mcbio 342 or concurrent registration.

**351. Microbiology.** (3–5:5:0) Prerequisite: Mcbio 230 (or Botny or Zool 341).
Principles and applications of microbiology. A thorough introduction to the discipline for majors.

**361. Food and Dairy Microbiology.** (3:2:3) Prerequisite: Mcbio 221 or equivalent.
Basic study of microorganisms important in food preservation, spoilage, food-borne illness, and production processing.

**365. Advanced Laboratory Methods.** (2:0:6) Prerequisite: Mcbio 265 and 351.
Experimental methodology in bacteriology, immunology, and virology. Investigative approach to experimental microbiology.

**371. Microbial Ecology.** (3:3:0) Prerequisite: Mcbio 351.
Principles of prokaryotic ecology. Microbial communities in their natural habitats, role of microorganisms in biogeochemical cycling.

**391. Clinical Pathology.** (3:3:0)
Theory and application of diagnostic methods employed in clinical laboratories.

**392. Hematology.** (2.5:2.5:0) Prerequisite: program acceptance.
Normal and abnormal hematology.

**393. Immunohematology and Coagulation Theory.** (2.5:2.5:0) Prerequisite: program acceptance.
Theory and practice of bloodbanking and coagulation theory.

**394. Practical Hematology.** (2:0:6) Prerequisite: Mcbio 392 or concurrent registration.
Laboratory to accompany Mcbio 392; emphasizes medical laboratory techniques in hematology.

**395. Practical Immunohematology and Coagulation Theory.** (2:0:6) Prerequisite: Mcbio 393 or concurrent registration.
Laboratory to accompany Mcbio 393; medical laboratory techniques in immunohematology and coagulation theory.

**399R. Cooperative Education: Clinical Laboratory Experience.** (1–9:0:40 ea.)

**402. Biology of the Immune System.** (3:3:0) Prerequisite: Mcbio 351.
Fundamentals of immune mechanisms.

**403. Medical Microbiology.** (3:3:0) Prerequisite: Mcbio 351.
Introduction to infectious diseases.

**404. General Animal Virology.** (3:3:0) Prerequisite: Mcbio 351.
Basic principles of animal and medical virology.

**407. Clinical Microbiology.** (4:2:6) Prerequisite: Mcbio 403.
Approaches to laboratory diagnosis of infectious diseases.

**420. Pathophysiology and Laboratory Diagnosis in Clinical Chemistry and Urinalysis.** (5:5:0) Prerequisite: Chem 351, 352.
Medical laboratory techniques in urinalysis, clinical chemistry.

**421. Pathophysiology and Laboratory Diagnosis (Laboratory).** (4:0:12) Prerequisite: concurrent registration in Mcbio 420.

**423. Pathogenesis of Infectious Diseases.** (3:3:0) Prerequisite: Mcbio 402, 403.
Microbial virulence mechanisms, host defense processes, and pathogenesis of infectious disease.

**425. Molecular Genetics of Prokaryotes.** (4:3:3) Prerequisite: Mcbio 230, 351, Chem 481.
Molecular basis of genetics of bacteria and bacteriophages, including mechanisms of DNA transfer, uptake, recombination, replication, and mutation.

**430. Molecular Cell Biology.** (3:3:0) Prerequisite: Mcbio 230, 351.
Emphasizes molecular genetics, cell biology, and developmental biology. For bioscience majors.

**441. Molecular Biology of the Gene.** (3:3:0) Prerequisite: Mcbio 230, 351, Chem 351, 352.
Molecular biology of gene structure and expression in prokaryotic and eukaryotic organisms.

**442. Molecular Biology Laboratory.** (2:0:6)
Laboratory to accompany Mcbio 441.

**471. Industrial Applications of Microbiology.** (3:3:0) Prerequisite: Mcbio 351.
Commercial applications of microbial processes, quality control systems, scale-up and production line procedures, genetic manipulation of microbes, fermentations and bioassays with industrial applications.

**481. History of Microbiology.** (1:1:0) Prerequisite: Mcbio 351.

**491R. Selections in Critical Literature.** (1:1:0 ea.) Prerequisite: senior status.

**495R. Special Problems.** (1–4:Arr.:Arr. ea.) Prerequisite: department's consent.
Individualized undergraduate research experience.

**499R. Senior Honors Thesis.** (1–3:0:Arr. ea.) Prerequisite: topic to be cleared with Honors and Department of Microbiology.

## 500-Level Graduate Courses (available to advanced undergraduates)

**502. Immunobiology.** (4:2:6) Prerequisite: Mcbio 402, Chem 481.
Literature review of current topics in immunology.

**504. Molecular Biology of Animal Viruses.** (4:2:6) Prerequisite: Mcbio 404 or equivalent.
Molecular aspects of viral replication and infection.

**521. Industrial Microbiology.** (3:2:3) Prerequisite: Mcbio 351, Chem 481.

**551. Microbial Physiology.** (5:3:6) Prerequisite: Mcbio 351, Chem 481.

**561. Radioisotope Methods.** (2:1:6) Prerequisite: college physics.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Microbiology Faculty

**Professors**

Anderson, Shauna C. (1974) AS, Ricks Coll., 1965; BS, Brigham Young U., 1967; MS, U. of Utah, 1973; PhD, U. of Washington, 1984.

Jensen, James B. (1989) BS, MS, Brigham Young U., 1970, 1972; PhD, Auburn, U., 1976.

Johnson, F. Brent (1972) BS, MS, PhD, Brigham Young U., 1966, 1967, 1970.

Murray, Byron K. (1983) AS, Ricks Coll., 1964; BS, MS, PhD, Brigham Young U., 1966, 1969, 1971.

North, James A. (1965) BS, MS, Brigham Young U., 1958, 1960; PhD, U. of Utah, 1964.

Wright, Donald N. (1969) BS, U. of Utah, 1958; PhD, Iowa State U. of Science and Technology, 1964.

**Associate Professors**

Harker, Alan R. (1994) BS, PhD, U. of Utah, 1978, 1982.

Leavitt, Ronald W. (1977) BA, U. of California, Riverside, 1967; MS, U. of Illinois, 1969; PhD, U. of California, San Diego, 1975.

O'Neill, Kim L. (1992) BSc, DPhil, New U. of Ulster, Northern Ireland, 1984, 1986.

Teuscher, Cory (1990) BS, Utah State U., 1977; MS, Brigham Young U., 1979; PhD, U. of New Mexico, 1982.

Woodward, Scott R. (1989) BS, PhD, Utah State U., 1980, 1983.

**Assistant Professors**

Allman, Glenn Walker (1970) BS, MS, Brigham Young U., 1963, 1972.

Cockayne, Susan (1982) BS, MS, U. of Utah, 1972, 1979; PhD, Brigham Young U., 1990.

McCleary, William R. (1995) BS, Brigham Young U., 1982; PhD, U. of California, Berkeley, 1990.

Robison, Richard A. (1991) BS, MS, PhD, Brigham Young U., 1978, 1980, 1988.

**Adjunct Professor**

Bodily

**Adjunct Clinical Professors**

Freestone, Lovell, Thorn, Urie

**Adjunct Clinical Instructors**

Dawson, Mangum, Poulsen, Tuttle, Wilson

**Director, Laboratory Support Services**

Lee, John D. (1972) BS, MS, Brigham Young U., 1972, 1976.

**Emeriti**

Beck, Jay V. (1951) BA, MA, Brigham Young U., 1933, 1936; PhD, U. of California, Berkeley, 1940.

Bradshaw, Willard H. (1961) BS, MS, Brigham Young U., 1952, 1953; PhD, U. of California, Berkeley, 1957.

Donaldson, David M. (1955) BS, MS, PhD, U. of Utah, 1950, 1952, 1954.

Jensen, Marcus M. (1969) BS, MS, Utah State U., 1952, 1954; PhD, U. of California, Los Angeles, 1961.

Sagers, Richard D., (1958) BS, MS, Brigham Young U., 1954, 1955; PhD, U. of Illinois, 1958.

# Military Science (Army ROTC)

Lieutenant Colonel John J. Sullivan, Chair
320 ROTC, PO Box 28300, (801) 378-3601

## Admission to The Program

Students must be accepted by the Department of Military Science into the program.

## The Discipline

The Army ROTC Leadership Excellence Program is designed to produce highly qualified commissioned officers in the U.S. Regular Army, the U.S. Army Reserve, or the U.S. Army National Guard. Students specialize in the major field of their choice and graduate with the ability to function as a junior executive.

## Career Opportunities

Officer in the U.S. Army.

## General Information

**SMP Program.** A program allowing for simultaneous membership in the U.S. Army Reserve or National Guard that provides additional pay as an officer trainee is available.

**Textbooks, Uniforms, and Allowances.** All textbooks, uniforms, and training materials are furnished by the U.S. Army. Those in the advanced course receive a $150 monthly allowance (up to $3,000 for the two years). Additionally, students attending either the basic or advanced camps receive approximately $700 for the camp period, plus travel to and from the camp.

**Army ROTC Scholarship Program.** Tuition assistance is available on a competitive basis. Senior students in high school may qualify for a four-year scholarship. College students may qualify for a three- or two-year scholarship. The scholarship provides for tuition, fees, a textbook allowance, and $150 per month (up to ten months per year) for the period of the scholarship. Contact the Military Science Department for application procedures and specifics.

**Extracurricular Activities.** Army ROTC cadets extend academic and laboratory associations into a variety of extracurricular ROTC activities. Among these are the Mountain Rangers and Ranger Challenge, Army Color Guard, annual Patriot Ball, and many school service projects performed by the cadet battalion.

**LDS Missions.** Students, including scholarship recipients, who wish to serve a two-year LDS mission can do so most conveniently between their freshman and sophomore years. This allows students to be on campus during the spring of their sophomore year to facilitate their selection for the advanced course. Interruptions of the program at other times for a mission, however, can be arranged by obtaining individual approval from the professor of military science.

**Leadership Laboratory and Course Fee.** Each course requires a corresponding leadership lab, which meets on Thursdays from 3:00 to 5:00 p.m. The labs require physical activity, including but not inclusive to the following: land navigation, mountaineering, rope bridging, marksmanship, the leadership reaction course, physical fitness training, and field training exercises. Students are also required to participate in one weekend leadership lab per semester. A course fee is required of each participating student to cover cadet activity expenses.

**Graduation Requirements in Physical Education.** Students in the Army ROTC Program can complete the physical education graduation requirements listed in the Physical Activity Requirement section of this catalog by participating in the leadership laboratory for eight semesters. Additionally, the student is expected to pass the Army Physical Fitness Test. Physical education credit can be received for participation in the ROTC Physical Training Program. An Army ROTC instructor has complete details.

**Program of Instruction.** The ROTC Leadership Excellence Program is designed to complement the civilian goal of acquiring a baccalaureate degree in a personal course of study while enabling students to develop the knowledge, skills, and attitudes for transition into one of the Army's sixteen branches upon commissioning. The program also enables those who plan a civilian career to fulfill military obligations while serving as an officer. Following the completion of active service, ROTC graduates reflect leadership training as leaders in business, civic, and community affairs.

## Program Requirements

1. The traditional Army ROTC Leadership Excellence Program extends over a four-year period compatible with normal progression through four years of college. It consists of two phases: a two-year basic course during the freshman and sophomore years and an advanced course designed for completion during the normal junior and senior years. Also included is a six-week advanced camp normally attended in the summer before the senior year. (Under some circumstances it can be attended in the summer at the end of the senior year.) Students may receive academic credit for the first two years of ROTC by attending the basic camp in the summer before the start of their junior year. Such actions must be approved in advance by the professor of military science.

   A two-year program is also offered that enables qualified students (prior service or placement credit for basic course) with 64 semester hours (academic junior) to complete all requirements for a U.S. Army commission in two years of college. Applicants for the two-year program may be upper-division or graduate students, provided a minimum of four semesters remain at BYU at the time of entry into the program. Students must complete a physical examination and other associated requirements during the year before contracting. Two-year students normally process for admission during the first month of the winter semester of the sophomore year and enter the program at the beginning of the junior year.
2. Entering either the four-year or three-year program incurs no military obligation whatever until such time as students sign their advanced course contract at the beginning of the junior year, unless they are an Army ROTC scholarship student. At that time they agree to enlist in the U.S. Army Reserve Control Group for a period of eight years; they are then sworn into the reserve and begin to receive the monthly subsistence allowance.

   Veterans who have had one or more years of active duty may qualify for direct entry into the advanced course by receiving placement credit for the basic course from the professor of military science.
3. Students must be or have applied to be citizens of the United States.
4. To receive a commission as a second lieutenant in the U.S. Army, students must earn a baccalaureate degree and be commissioned before their thirtieth birthday. Waivers of age may be approved by the Department of the Army under special circumstances. Those who are in a five-year academic program, such as engineering, may complete their Army ROTC courses at any point before graduation.

5. Upon commissioning, the new second lieutenant is discharged from the U.S. Army Reserve Control Group and incurs an eight-year obligation to the U.S. Army, which may be filled by serving on active duty in the U.S. Army Reserve, National Guard, Individual Ready Reserve (IRR), or various combinations of the above.
6. Complete the following basic courses:
   MilS 120, 121, 220, 221.
7. Complete the following advanced courses:
   MilS 320, 321, 420, 421.

**Note 1:** Two-year students should complete the 300- and 400-level courses.

**Note 2:** Credit for the 100- and 200-level courses may be granted by completing the six-week Camp Challenge at Fort Knox, Kentucky, beginning the June following the sophomore year.

**Note 3:** Each course listed must have a concurrent leadership laboratory.

8. Professional Military Education (PME): Before being commissioned, each senior cadet must complete one course in each of the following five categories:
   a. Military history:
      Hist 321, 323, 374, 381.
      PlSc 376, 377.
   b. Human behavior:
      Anthr 101.
      Psych 111.
      Econ 110.
      Soc 111, 112.
   c. Writing and reading:
      Engl 311, 312, 313, 315, 316.
      MCom 320.
      Comms 311.
      Phil 311.
   d. Computer literacy:
      Ling 98.
      ISys 98.
      CS 103, 130, 142, 143.
      CEEn 270.
   e. Mathematics:
      Math 110, 119, 312.
      Stat 105.

**Note:** Courses not specified above may satisfy the requirement but must be approved by the professor of military science.

## Minor Military Science (16 hours + commission)

**Minor Requirements**

1. Complete the following:
   MilS 320, 321, 420, 421.
2. Receive a commission into the U.S. Army as an officer.

## Military Science (Army ROTC) (MilS)

### Undergraduate Courses

**115. Spring Lab—Freshmen.** (0.5:0:2) Sp
Military basic skills oriented toward in-depth preparation for sophomore year of military science; includes drill and ceremony, physical fitness, land navigation, and basic tactical skill development.

**120. Introduction to Leadership Excellence.** (2:1:2) F
Historical overview and evolvement of value systems and philosophies. Individual leadership styles; organization and time management; writing skills; ethics and code of an officer; role of LDS officer in the military; drill and ceremonies; fire team tactics; rappelling, mountaineering. Lab required. Fee.

**121. Individual Leadership Skills.** (2:1:2) W
Comparison and analysis of leadership styles in U.S. Army. Army organization, active and reserve forces; winter operations, cross-country skiing, and survival; advanced fire-team and aggressor tactics. Lab required. Fee.

**131. Fundamentals of Military Leadership.** (3:2:2) F, W, Sp
Alternate single-semester course including course descriptions for MilS 120, 121. Lab required. Fee.

**215. Spring Lab—Sophomore.** (0.5:0:2) Sp
Military basic skills oriented toward in-depth preparation for junior year of military science and special Army schools such as Airborne, Air Assault, and Winter Warfare Training; includes physical fitness, drill, marksmanship, and patrolling.

**220. Advanced Individual Leadership.** (3:2:2) F, W, Sp, Su
Building on skills and fundamentals learned in MilS 120, 121; personal leadership and military skills relative to land navigation, military first aid, and preventive medical care and exercises involving tactical training, mountaineering, and other adventure training. Lab required. Fee.

**221. Small-Unit Leadership.** (3:2:2) F, W, Sp, Su
Organization and leadership of military fire teams and rifle squads, land navigation, squad and platoon tactics, radio/wire communications, and basic first aid. Lab required. Fee.

**315. Spring Lab—Juniors.** (1:0:2) Sp
Prerequisite to attendance and successful completion of summer advanced camp at Ft. Lewis, Washington; emphasis on small-unit leadership, physical fitness, and land navigation.

**320. Organizational Leadership.** (4:3:2) F
Theory, practical experience, and diagnostic evaluation in organizational leadership, emphasizing communication, human relations, organizational structures, management, and applied leadership. Lab required. Fee.

**321. Battlefield Leadership.** (4:3:2) W
Prerequisite to attendance at summer advanced camp, preparing for its successful completion: land navigation, squad and platoon tactics, combat operations, physical fitness, and battlefield leadership. Lab required. Fee.

**415. Spring Lab—Seniors.** (0.5:0:2)
Instruction, counseling, and communications in preparation for commissioning into the U.S. Army. Students will be assigned as assistant instructors and evaluated on ability to plan, organize, and teach.

**420. The Military Profession and Ethics.** (4:3:2) F
Preparing the prospective officer for successful completion of first and subsequent assignments in the Army. U.S. Army training management, military writing, administration, logistics, professionalism, and ethics. Lab required. Fee.

**421. The Profession of Arms.** (4:3:2) W
Preparing the prospective officer for successful completion of Army assignments. U.S. advanced Army training management, military justice and law, precommissioning orientation, military briefing skills, and junior officer leadership. Fee.

**425R. Ranger Preparation.** (2:1:5)
Participation in Army ROTC Ranger Challenge and Mountain Ranger programs. Advanced military training with practical application of skills taught in MilS 120–421.

## Military Science Faculty

**Professor of Military Science**
Sullivan, John J., LTC (1995) BS, Hofstra U., 1979; MA, U.S. Naval War Coll., 1993.

**Assistant Professors of Military Science**
Boucher, William W., CPT (1995) BS, Utah State U., 1987.
Current, Michael L., CPT (1994) BS, U. of Nevada, Reno, 1986; MS, Joint Military Intelligence Coll., 1994.
Ferguson, Byron W., MAJ (1995) BS, Tennessee Technological U., 1983.
McNeil, Earl W., MAJ (1993) BS, Utah State U., 1976.

# Music

Clyn D. Barrus, Chair
C-550 HFAC, PO Box 26410, (801) 378-3083

College of Fine Arts and Communications Advisement Center
D-444 HFAC, PO Box 26333, (801) 378-3537

## Admission to Degree Program

The degree programs in the Department of Music carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Studies in the discipline of music include theory, analysis, aural development, keyboard, sight-singing skills, composition, history, literature, instrumental and vocal performance, conducting, and pedagogy. The music major may pursue a broad liberal education with a concentration in music or specialize in an area such as composition, performance, or teaching.

## Career Opportunities

Those who successfully complete an undergraduate degree are prepared to obtain professional positions within the field or to continue study on the graduate level. Because the music curriculum is rigorous, it is an excellent preprofessional course for those interested in fields such as arts administration, business, law, librarianship, the music industry, music journalism, and music therapy.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BA Music
BFA Music Dance Theatre
BM Music Composition
BM Music Education
Emphases:
- K–12 Choral
- K–12 Instrumental
- Elementary

BM Performance
Emphases:
- Piano
- Organ
- Combined Piano and Organ
- Brass
- Percussion
- String
- Woodwind
- Vocal

BA Honors in Music and University Honors
BM Honors in Music and University Honors
Emphases:
- Music Composition
- Piano Performance
- Organ Performance
- Combined Piano and Organ Performance
- Brass Performance
- Percussion Performance
- String Performance
- Woodwind Performance
- Vocal Performance

Minors Music

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Music
MM Music
PhD Music

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. Prerequisite: Enrollment as a prospective music major requires that the student pass (a) an audition in his or her performance specialty (voice or instrument), (b) an aural acuity test, and (c) a music fundamentals test. These must be passed before the first day of freshman classes (see department office for details).

2. Establish a file in the College of Fine Arts and Communications Advisement Center during the first semester of enrollment.
3. Students who pass the AP Music Test with at least a score of 4 can be excused from Music 191, 193, 195, 197 and receive 5 hours of credit. However, students with insufficient keyboard or sight-singing instruction are encouraged to enroll in Music 191 and 197.
4. All 260R enrollments must be in the same instrument or must all be in voice.
5. Undergo a jury examination to assess proficiency and progress on the major instrument or voice. Music majors are required to complete an examination before a faculty jury on their major instrument or voice near the end of each semester of performance study. Students may elect to substitute a recital for a jury examination, subject to faculty approval. Students desiring to enter Music 360R or 460R, which normally follows successful completion of the sophomore year, must first be granted approval by a faculty jury.

## BA Music (45 hours)

The bachelor of arts degree offers a broad liberal arts education with a concentration in music. If appropriate music electives are chosen, it also offers excellent preparation for a variety of professional music careers, or graduate work in theory, musicology, music education, law, or medicine (if the appropriate premed classes are taken). To incorporate an emphasis into elective course work, students should seek assistance as follows:

1. Electives focused on preparation for graduate studies in musicology or librarianship: consult with the head of the music history and literature area.
2. Electives focused toward sound recording technology, jazz studies, music for the media, or the music industry: consult with the head of the media music and jazz area.
3. Electives focused on preparation for graduate studies in music theory: consult with the head of the composition-theory area.

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center to obtain information concerning official acceptance into a specific degree program.
3. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
4. Select one of the following options:
   a. Instrumentalists complete 8 hours of the following:
      Music 260R.
   b. Vocalists complete the following:
      Music 161, 260R (6 hours).
5. Complete 4 hours of large ensemble courses within student's area of specialization.
6. Complete the following:
   Music 301, 302, 303, 304, 395.

## BFA Music Dance Theatre (77–78 hours*)

The BFA in music dance theatre is an interdisciplinary degree offered by the College of Fine Arts and Communications through the cooperative involvement of its Department of Music and Department of Theatre and Film and the College of Physical Education's Department of Dance.

**Major Requirements**

1. Apply and audition for acceptance into the program during the first semester of registration.
2. Pass a proficiency examination in each of the three areas at the end of each semester.
3. Complete at least 40 hours in residence at BYU.
4. Any grade below C– in major courses is not acceptable for graduation. Dance technique courses require a grade of B– for advancement to the next level.
5. Complete the following:
   Music 113, 161, 261, 290.
6. Complete 4 hours of the following:
   Music 260R.
7. Complete 6 hours of the following:
   Music 360R.
8. Complete the following:
   Dance 131, 134R, 135, 231, 235, 241R, 242, 290, 291R, 331, 361, 363, 390R.
9. Complete the following:
   ThF 121, 122, 123, 124R, 127R, 323R, 361, 522R.
10. Select one course from the following:
    ThF 324R, 423R, 424R, 523R, 524R.
11. Complete the following MDT Seminar courses:
    Music 228.
    Dance 228.
    ThF 228.
12. Complete the following History of Music Dance Theatre courses:
    Music 300.
    Dance 300.
    ThF 300.
13. Complete the following Senior Performance Project courses:
    Music 426R.
    Dance 426R.
    ThF 426R.
14. Select 2 hours from the following (on-campus performance experience):
    Music 319R.
    Dance 229R, 429R.
    ThF 240R, 540R.
15. Select 1 hour from the following (off-campus performance experience):
    Music 399R.
    Dance 399R.
    ThF 399R.
16. Complete 4.5 hours of electives in music, dance, or theatre courses.

*Hours include courses that may fulfill GE or university requirements.

## BM Music Composition (78 hours)

This degree program prepares the student for graduate study in composition and theory or may lead to a professional career as a composer, arranger, or orchestrator.

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Pass a junior-level screening process by creating a portfolio of acceptable compositions.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   **Either** Music 260R.
   **Or** vocalists take 2 hours of Music 161 and 6 hours of Music 260R.
6. Complete 4 hours of large ensemble courses within student's area of specialization.
7. Complete the following:
   Music 301, 302, 303, 304, 395.
8. Complete the following:
   Music 188, 287, 288.
9. Complete 8 hours of the following:
   Music 387R.
10. Complete the following:
    Music 481, 483, 581, 583.
11. Complete the following senior composition recital:
    Music 449R.
12. After consulting with a faculty advisor, complete 7 hours of music electives.

## BM Music Education: K–12 Choral Emphasis (92 hours, including certification hours)

This degree in music education prepares the student for K–12 certification as a public school music teacher with a choral emphasis. The degree program is a composite of music and education. Graduates may obtain a teaching position, pursue graduate work, or use the degree as professional preparation for other fields of endeavor.

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Proficiency requirements: All Music 260R, 262, 263, and 363 proficiency requirements in voice must be completed before student teaching (ScEd 476R). Twenty minutes of solo performance time and ten minutes of chamber music performance time are required, which may be accomplished through master classes, recitals, juries, or in-class performances in ScEd 276R and 476R. Students opting for a juried recital must register for Music 349R.
4. Complete the following core requirements:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235, 161.
5. Complete 6 hours of the following:
   Music 260R.
6. Music education majors must enroll in at least 1 credit of large ensemble each semester for seven semesters within student's area of specialization.
7. Complete the following:
   Music 301, 302, 303, 304, 395.
8. Complete the following:
   Music 162, 176, 262, 263, 276, 363, 374, 376A,B, 482.
9. Complete the Professional Education Component (25 hours): see the Secondary Education section of this catalog for certification requirements.

## BM Music Education: K–12 Instrumental Emphasis

**(94 hours, including certification hours)**

This degree in music education prepares the student for K–12 certification as a public school music teacher with an instrumental emphasis. The degree program is a composite of music and education. Graduates may obtain a teaching position, pursue graduate work, or use the degree as professional preparation for other fields of endeavor.

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Proficiency requirements: All Music 260R and 360R requirements in a woodwind, brass, string, or percussion instrument must be completed before student teaching (ScEd 476R). Twenty minutes of solo performance time and ten minutes of chamber music performance time are required, which may be accomplished through master classes, recitals, juries, or in-class performances in Music 276R. Students opting for a juried recital must register for Music 349R.
4. Complete the following core requirements:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete 4 hours of the following:
   Music 360R.
7. Music education majors must enroll in at least 1 credit of ensemble each semester for seven semesters. Those who play woodwind, brass, or percussion instruments must enroll in one semester of marching band, which may be counted toward the 7-hour large ensemble requirement if it is completed after the student has been officially accepted as a degree candidate in instrumental music education (after freshman year).
8. Complete the following:
   Music 301, 302, 303, 304, 395.
9. Complete the following:
   Music 176, 276, 372A,B, 373A,B, 374, 375A,B, 377A,B.
10. Complete the Professional Education Component (25 hours): see the Secondary Education section of this catalog for certification requirements.

## BM Music Education: Elementary Music Specialist Emphasis (127.5 hours,* including certification hours)

This is a five-year program leading to a degree with a dual major in elementary music education and elementary education. It will also prepare the student for dual certification as an elementary music specialist and as an elementary classroom teacher. Graduates may obtain a teaching position in either area or a combination of both, pursue graduate work, or use the degree as preparation for other fields of endeavor.

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Complete the following music core requirements:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235, 161.
4. Complete 6 hours of the following:
   Music 260R.
5. Complete 4 hours of performance ensemble as assigned by faculty.
6. Complete the following:
   Music 301, 302, 303, 304, 395.
7. Complete the following:
   Music 162, 271, 272, 371, 471.
8. See the Education Advisement Center for the application procedure for official acceptance into elementary education and complete the professional education component.

*Hours include courses that may fulfill GE or university requirements.

## BM Performance: Piano Emphasis (78 hours)

The keyboard performance degree prepares students for professional work as performers and studio teachers. The degree includes a strong pedagogy emphasis, including supervised teaching. Many performance majors continue their studies on the graduate level to further prepare for a performance career or college teaching.

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A senior recital (Music 449R) is also required.
   **Recital:** Enroll in 249R, or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete the following:
   Music 249R.
7. Complete 4 hours of the following:
   Music 360R.
8. Complete 8 hours of the following:
   Music 460R.
9. Complete the following:
   Music 449R.
10. Complete at least 1 credit of large ensemble or Music 344R each semester for six semesters. Take either four semesters of large ensemble and two semesters of Music 344R or two semesters of large ensemble and four semesters of Music 344R. Two semesters of 344R must be taken in consecutive fall and winter semesters.
11. Complete the following:
    Music 301, 302, 303, 304, 395.
12. Complete the following:
    Music 264, 265, 364, 365, 403A,B.
13. Complete 2 hours of the following (1 hour of which should be taken concurrently with Music 469):
    Music 470R.
14. Complete the following concurrently with 1 hour of Music 470R:
    Music 469.
15. Select two courses from the following:
    Music 115, 116R, 260R (organ).

## BM Performance: Organ Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A senior recital (Music 449R) is also required.
   **Recital:** Enroll in 249R or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete the following:
   Music 249R.

7. Complete 4 hours of the following:
   Music 360R.
8. Complete 8 hours of the following:
   Music 460R.
9. Complete at least 1 credit of large ensemble or Music 344R each semester for six semesters. Take either four semesters of large ensemble and two semesters of Music 344R or two semesters of large ensemble and four semesters of Music 344R. Two semesters of 344R must be taken in consecutive fall and winter semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 166, 264, 265, 364, 366, 404A,B, 466R.
12. Complete 2 hours of the following (1 hour of which should be taken concurrently with Music 469):
    Music 470R.
13. Complete the following concurrently with 1 hour of Music 470R:
    Music 469.

## BM Performance: Combined Piano and Organ Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A senior recital (Music 449R) is also required.
   **Recital:** Enroll in 249R or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following divided between piano and organ:
   Music 260R.
6. Complete the following:
   Music 249R.
7. Complete 8 hours of the following divided between piano and organ:
   Music 360R.
8. Complete the following:
   Music 449R.
9. Complete at least 1 credit of large ensemble or Music 344R each semester for six semesters. Take either four semesters of large ensemble and two semesters of Music 344R or two semesters of large ensemble and four semesters of Music 344R. Two semesters of 344R must be taken in consecutive fall and winter semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 166, 264, 265, 364, 365, 366, 466R.
12. Complete 2 hours of the following (1 hour of which should be taken concurrently with Music 469):
    Music 470R.
13. Complete the following concurrently with 1 hour of Music 470R:
    Music 469.
14. Select three courses from the following:
    Music 403A,B, 404A,B.

## BM Performance: Brass Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A junior recital and a senior recital (Music 449R) are also required.
   **Recital:** Enroll in 249R, 349R, or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete the following:
   Music 249R.
7. Complete 16 hours of the following:
   Music 460R.
8. Complete the following:
   Music 349R, 449R.
9. Complete at least 1 credit of large ensemble within student's area of specialization each semester for eight semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 368, 405.
12. Select 4 hours from the following:
    Music 331R, 341R.
13. Complete 5 hours of music electives (Music 407 is recommended). See the college advisement center.

## BM Performance: Percussion Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A junior recital and a senior recital (Music 449R) are also required.

   **Recital:** Enroll in 249R, 349R, or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete the following:
   Music 249R.
7. Complete 16 hours of the following:
   Music 460R.
8. Complete the following:
   Music 349R, 449R.
9. Complete at least 1 credit of large ensemble within student's area of specialization each semester for eight semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 374, 405.
12. Select 5 hours from the following:
    Music 330R, 331R, 345R.
13. Complete 5 hours of music electives (Music 407 is recommended). See the college advisement center.

## BM Performance: String Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A junior recital and a senior recital (Music 449R) are also required.

   **Recital:** Enroll in 249R, 349R, or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.
6. Complete the following:
   Music 249R.
7. Complete 16 hours of the following:
   Music 460R.
8. Complete the following:
   Music 349R, 449R.
9. Complete at least 1 credit of large ensemble within student's area of specialization each semester for eight semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 369, 406.
12. Select one course from the following:
    Music 405, 407.
13. Complete 2 hours of the following (1 hour of which should be taken concurrently with Music 469):
    Music 470R.
14. Complete the following concurrently with 1 hour of Music 470R:
    Music 469.
15. Select 4 hours from the following:
    Music 343R, 346R.

## BM Performance: Woodwind Emphasis (78 hours)

**Major Requirements**

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Present a juried recital (Music 249R) during the sophomore year. A junior recital and a senior recital (Music 449R) are also required.

   **Recital:** Enroll in 249R, 349R, or 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete 8 hours of the following:
   Music 260R.

6. Complete the following:
   Music 249R.
7. Complete 16 hours of the following:
   Music 460R.
8. Complete the following:
   Music 349R, 449R.
9. Complete at least 1 credit of large ensemble within student's area of specialization each semester for eight semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 367, 405.
12. Select 4 hours from the following:
    Music 331R, 348R.
13. Complete 5 hours of music electives (Music 407 is recommended). See the college advisement center.

## BM Performance: Vocal Emphasis (77 hours)

1. No credit less than C– in music courses can be applied toward the music degree or fulfillment of prerequisites.
2. See the college advisement center for the application procedure for official acceptance into a specific degree program.
3. Successfully complete an extended jury examination at the end of the sophomore year. A senior recital (Music 449R) is also required.

   **Recital:** Enroll in 449R (0.0 credit hours) for the semester during which a recital is to be presented. Concurrent registration in appropriate performance instruction is required. A prerecital hearing is required at least three weeks before juried recitals. Contact the Harris Fine Arts Center scheduling office (F-315) for further information.

   **Note:** In conjunction with the senior recital, students may qualify for the Performer's Certificate in recognition of superior performance skill and musical maturity.
4. Complete the following:
   Music 191, 193, 195, 197, 192, 194, 196, 198, 291, 293, 295, 297, 292, 294, 296, 298, 235.
5. Complete the following:
   Music 161.
6. Complete 6 hours of the following:
   Music 260R.
7. Complete 8 hours of the following:
   Music 360R.
8. Complete the following:
   Music 449R.
9. Within student's area of specialization complete at least 1 credit of large ensemble or a major opera production each semester for eight semesters.
10. Complete the following:
    Music 301, 302, 303, 304, 395.
11. Complete the following:
    Music 162, 262, 263, 363, 402A.
12. Complete 3 hours of the following:
    Music 472.
13. Select 8 hours from the following:
    Fren 101, 102.
    Germ 101, 102.
    Ital 101, 102.

**Recommended**

Students intending to enter graduate school in voice should complete:
Music 402B.
Fren 101
Germ 101.
Ital 101.

## BA and BM Honors in Music and University Honors

For more information on these degree programs, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Music (18 hours)

1. Complete the following:
   Music 101, 135, 190.
2. Complete 2 hours of the following:
   Music 160R.
3. Complete 4 hours of performance ensemble.
4. Complete 5 hours of music electives.

# Music (Music)

## Undergraduate Courses

A course without the R suffix may not be repeated more than one time to improve a grade. (Repeating a course with the R suffix does not change the original grade.)

**101. Introduction to Music.** (3:3:0) F, W, Sp, Su Honors also.
Designed to aid nonmusic majors in developing skills needed for listening to music creatively. Emphasis on masterworks of Western music from major style periods.

**105. Introduction to Music Theory.** (4:3:1) F, W Prerequisite: basic music performance skills and ability to read simple music notation.
Introduction to music theory through critical listening, reading, and writing notated music. Analysis, creative activity, solfeggio, and guided journal writings.

**111R. Basic Vocal Skills.** (2:2:0) F, W, Sp
Class instruction in voice for nonmusic majors.

**113. Basic Piano Skills.** (2:2:0) F, W, Sp
Class instruction in piano for nonmusic majors.

**114R. Piano Techniques and Literature.** (2:2:0 ea.) F, W
Prerequisite: Music 113 or instructor's consent.
Continuation of Music 113.

**115. Basic Organ Skills.** (2:2:0) F, W, Sp
Class instruction in organ for nonmusic majors.

**116R. Organ Techniques and Literature.** (2:2:0 ea.) F, W, Sp
Prerequisite: Music 115 or instructor's consent.
Continuation of Music 115.

**117. Basic Guitar Skills.** (2:2:0) F, W, Sp, Su
Class instruction in guitar for nonmusic majors.

**118R. Guitar Techniques and Literature.** (2:2:0 ea.) F, W Prerequisite: Music 117 or instructor's consent.
Continuation of Music 117.

**135. Basic Conducting.** (2:2:0) F, W
Fundamental concepts and skills for nonmusic majors.

**160R. Performance Study.** (0.5–1:0.5:0 ea.) F, W, Sp Prerequisite: nonmusic major status. Audition may be required.
Private or semiprivate instruction. One to two hours of daily practice. Fee.

**161. Voice Technique.** (2:2:0) F, Sp Prerequisite: acceptance as a prospective voice major.
Class instruction in voice technique.

**162. Diction 1.** (1:1:0) F, Sp Prerequisite: concurrent registration in 161. Recommended: concurrent registration in Ital 101.
English, Italian, and Latin diction for singers.

**166. Organ Registration.** (2:2:0) F Prerequisite: concurrent private or group instruction in organ or instructor's consent.
Organ stops and their application to various performance styles.

**176. Careers in Music Education.** (1:1:1)
Examining preschool through college teaching career options in music; seeking a good fit between personal aspirations, attributes, skills, and job requirements.

**186. Songwriting 1.** (2:2:0) F, W Prerequisite: basic music reading and keyboard skills.
Songwriting for present-day music publishing industry; basic songwriting theory; form, content, and style.

**188. Composition 1.** (2:2:0) W Prerequisite: Music 191, 193, 195, 197.
Introduction to principles of recent art music; composition and performance of student works for one to five instruments.

**189. Introduction to Music Instrument Digital Interface (MIDI).** (2:2:0) F, W Prerequisite: acceptance as a music major.
Overview of computer programs in all aspects of music composition, production; familiarity with worldwide music sites on the network; demonstrations of samplers and electronic sound sources.

**190. Music Fundamentals.** (2:2:0) F, W, Su Prerequisite: nonmusic major status. Required for music minor.
Organizational systems of music, their notation and aural patterns.

**191. Keyboard Harmony 1.** (0.5:0:1) F, Sp Prerequisite: acceptance as a prospective music major; concurrent registration in Music 193, 195, and the *same* section of Music 197. Music 113 or 114R may be required if keyboard skills are insufficient.
Basic keyboard harmony skills and application of theoretical concepts learned in Music 195.

**192. Keyboard Harmony 2.** (0.5:0:1) W, Su Prerequisite: C– or higher in Music 191, 193, 195, 197; concurrent registration in Music 194, 196, and *same* section of 198.
Continuation of Music 191.

**193. Dictation 1.** (1:0:2) F, Sp Prerequisite: acceptance as a prospective music major; concurrent registration in Music 191, 197, and *same* section of 195.
Development of aural skills through melodic, rhythmic, and harmonic dictation.

**194. Dictation 2.** (1:0:2) W, Su Prerequisite: C– or higher in Music 191, 193, 195, 197; concurrent registration in Music 192, 198, and *same* section of 196.
Continuation of Music 193.

**195. Music Theory 1.** (3:3:0) F, Sp Prerequisite: acceptance as a prospective music major; concurrent registration in Music 191, 197, and *same* section of 193.
Writing and analysis in diatonic harmony.

**196. Music Theory 2.** (3:3:0) W, Su Prerequisite: C– or higher in Music 191, 193, 195, 197; concurrent registration in 192, 198, and *same* section of 194.
Writing and analysis in diatonic and chromatic harmony.

**197. Sight Singing 1.** (0.5:0:1) F, Sp Prerequisite: acceptance as a prospective music major; concurrent registration in Music 193, 195, and *same* section of 191.
Rhythm and pitch-reading skills using two systems of counting and melodic solfeggio singing with hand signs.

**198. Sight Singing 2.** (0.5:0:1) W, Su Prerequisite: C– or higher in Music 191, 193, 195, 197; concurrent registration in Music 194, 196, and *same* section of 192.
Continuation of Music 197.

**200. Elements of Music.** (1:1:0) F, W, Sp Prerequisite: nonmusic major status and concurrent ensemble enrollment.
Exploration of basic musical processes, structures, styles, and common principles of music literature through lectures, demonstrations, and analytical experiences.

**201. History of Civilization: Music 1.** (3:3:0) F, Sp or Su odd yr. Honors also. Prerequisite: ability to read musical notation.
History of Civilization from Greek antiquity to Renaissance, primarily from perspective of musical literature and the arts; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**202. History of Civilization: Music 2.** (3:3:0) W, Sp or Su even yr. Honors also. Prerequisite: Music 201.
History of Civilization from baroque to present, primarily from perspective of musical literature and the arts; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**203. World Music Cultures.** (3:3:0) F, W
Traditional music of selected cultures of Asia, Oceania, Africa, Europe, and the Americas, including both folk and art music traditions.

**204. History of Jazz and Related Styles.** (3:3:0) F
Fostering an understanding and appreciation of America's unique contribution to the world's music—jazz and related styles, gospel, rhythm, and blues.

**205. Introduction to Music Aesthetics.** (3:3:0) F Prerequisite: Music 105, 3 hours of 160R (1 hour may be taken concurrently with 205).
Designed to teach nonmusic majors the stylistic and aesthetic elements of Western music, emphasizing masterworks after 1600.

**228. Music Dance Theatre Seminar.** (1:2:0) F Prerequisite: audition and concurrent registration in ThF 228, Dance 228.
Intensive integration of music, dance, and theatre for the performer.

**235. Conducting Techniques.** (2:2:0) F, W, Sp Prerequisite: music major status, minimum C– in Music 192, 194, 196, 198.
Physical techniques and musical understanding required to conduct a performance ensemble.

**249R. Sophomore Recital.** (0:Arr.:Arr. ea.) F, W, Sp Prerequisite: concurrent registration in Music 260R and instructor's consent.
Prerecital hearing required at least three weeks before juried recitals. Fee.

**251. Audio: Basic Principles.** (2:2:2) F, W Prerequisite: Phscs 167 or instructor's consent; nonmusic major status.
Basic recording studio procedures and principles. Intended as overview of the field, course is not for those seeking emphasis in sound recording technology.

**256. Recording Studio 1.** (2:2:2) F Prerequisite: Math 110, Phscs 167, and music major status or instructor's consent.
Basic recording theory, operational techniques, and procedures.

**257. Recording Studio 2.** (2:2:2) W Prerequisite: Music 256.
Continuation of Music 256.

**259. Psychology of Performance.** (2:2:0) F, W
Psychological skills for performers. Topics include audition preparation, conquering stage fright, preventing overuse injury, attention control, creativity. Skills applicable to any performance situation.

**260R. Performance Study.** (1–2:1:1 ea.) F, W, Sp Prerequisite: acceptance as a music major or prospective music major; audition.
Private instruction and studio class. One to four hours of daily practice. Fee.

**261. Contemporary Vocal Techniques.** (2:2:1) W Prerequisite: Music 161 or instructor's consent.
Contemporary vocal styles and techniques, including pop/belt, stage, and studio singing.

**262. Diction 2.** (1:1:0) W Prerequisite: Music 162 and concurrent registration in Music 260R or 360R. Recommended: concurrent registration in Germ 101.
German diction for singers.

**263. Diction 3.** (1:1:0) W Prerequisite: Music 162 and concurrent registration in Music 260R or 360R. Recommended: concurrent registration in Fren 101.
French diction for singers.

**264. Keyboard Foundations 1.** (2:2:0) F, Sp even yr. Prerequisite: Music 192, 194, 196, 198, 260R.
Sight-reading, harmonization, improvisation, and technique at the keyboard.

**265. Keyboard Foundations 2.** (2:2:0) W, Sp odd yr. Prerequisite: Music 264.
Continuation of Music 264.

**271. Musicality in the Elementary School.** (3:2:1) F even yr.
Survey of authentic folk song and art music tonal systems and structures; their use in developing musical intuition through singing, movement, listening, and playing instruments.

**272. Developing Children's Musicality, Grades K–2.** (3:1:2) W odd yr.
Literature-based curriculum design and planning, grades K–2. Issues of pure intonation and vocal/aural development. Microteaching in a demonstration school.

**276. General Music Methods.** (3:3:0) W Prerequisite: Music 192, 194, 196, 198, ScEd 276R.
Methods and materials for teaching general music, K–12. Cognitive development and learning styles as a basis for instructional strategies. Includes Dalcroze, Orff, and Kodaly.

**284. Jazz Improvisation 1.** (2:2:1) F, W Prerequisite: Music 192, 194, 196, 198, or instructor's consent.
Beginning improvisation: theory and technique.

**287. Composition 2.** (2:2:1) F Prerequisite: Music 188, 192, 194, 196, 198.
Electronic music composition, analog and digital synthesis, and computer-aided composition and score preparation.

**288. Composition 3.** (2:1:2) W Prerequisite: Music 287, 291, 293, 295, 297.
Invention and exploration of sound, control of multivoiced textures and larger forms, and recent twentieth-century art music.

**290. Music Theory for MDT Majors.** (4:3:2) W Prerequisite: Music 113 and music dance theatre (MDT) major status.
Music theory, sight singing, aural dictation, and keyboard harmony.

**291. Keyboard Harmony 3.** (0.5:0:1) F, Sp Prerequisite: C– or higher in Music 192, 194, 196, 198; concurrent registration in Music 293, 295, and *same* section of 297.
Continuation of Music 192.

**292. Keyboard Harmony 4.** (0.5:0:1) W, Su Prerequisite: C– or higher in Music 291, 293, 295, 297; concurrent registration in Music 294, 296, and *same* section of Music 298.
Continuation of Music 291.

**293. Dictation 3.** (1:0:2) F, Sp Prerequisite: C– or higher in Music 192, 194, 196, 198; concurrent registration in Music 291, 297, and *same* section of 295.
Continuation of Music 194.

**294. Dictation 4.** (1:0:2) W, Su Prerequisite: C– or higher in Music 291, 293, 295, 297; concurrent registration in Music 292, 298, and *same* section of Music 296.
Continuation of Music 293.

**295. Music Theory 3.** (3:3:0) F, Sp Prerequisite: C– or higher in Music 192, 194, 196, 198; concurrent registration in Music 291, 297, and *same* section of 293.
Extended chromatic techniques and introduction to twentieth-century concepts.

**296. Music Theory 4.** (3:3:0) W, Su Prerequisite: C– or higher in Music 291, 293, 295, 297; concurrent registration in Music 292, 298, and *same* section of 294.
Set theory, serialism, and late twentieth-century concepts.

**297. Sight Singing 3.** (0.5:0:1) F, Sp Prerequisite: C– or higher in Music 192, 194, 196, 198; concurrent registration in Music 293, 295, and *same* section of 291.
Continuation of Music 198.

**298. Sight Singing 4.** (0.5:0:1) W, Su Prerequisite: C– or higher in Music 291, 293, 295, 297; concurrent registration in Music 294, 296, and *same* section of 292.
Continuation of Music 297.

**300. History of Music Dance Theatre.** (1:3:0) F even yr. Prerequisite: concurrent registration in Dance 300, ThF 300.
Development of Western theatre tradition from antiquity to present, emphasizing union of music, dance, and theatre.

**301. Survey of Music Literature 1.** (2:2:0) F, Sp Prerequisite: Music 192, 194, 196, 198, or instructor's consent.
Survey of musical genres, forms, styles, and performance practices from antiquity through the Renaissance.

**302. Survey of Music Literature 2.** (2:2:0) W, Su Prerequisite: Music 192, 194, 196, 198, or instructor's consent.
Survey of musical genres, forms, styles, and performance practices from the baroque through the early classic.

**303. Survey of Music Literature 3.** (2:2:0) F, Sp Prerequisite: Music 292, 294, 296, 298, or instructor's consent.
Survey of music genres, forms, styles, and performance practices from the high classic through the romantic.

**304. Survey of Music Literature 4.** (2:2:0) W, Su Prerequisite: Music 292, 294, 296, 298, or instructor's consent.
Survey of musical genres, forms, styles, and performance practices of the twentieth century.

**311R. University Chorale.** (1:0:3 ea.) F, W, Sp No audition required.

**312R. Men's Chorus.** (1:0:5 ea.) F, W Prerequisite: audition and director's consent.

**313R. Women's Chorus.** (1:0:5 ea.) F, W Prerequisite: audition and director's consent.

**314R. Concert Choir.** (1:0:5 ea.) F, W Prerequisite: audition and director's consent.

**315R. University Singers.** (1:0:5 ea.) F, W Prerequisite: audition and director's consent.

**318R. Music Theatre Ensemble.** (1:0:5 ea.) F, W Prerequisite: audition and director's consent.
Auditioned chorus or orchestra for opera or music dance theatre productions.

**319R. Music Theatre Performance.** (1–3:0:0 ea.) F, W, Sp Prerequisite: audition and director's consent.
Participation as soloists, coaches, or directors in music dance theatre or opera performances.

**323R. Marching Band.** (1:0:6 ea.) F Prerequisite: audition or director's consent.

**324R. Cougar Band.** (1:0:6 ea.) W Prerequisite: audition or director's consent.

**325R. Symphonic Band.** (1:0:4 ea.) F, W, Sp Prerequisite: audition.

**326R. Wind Symphony.** (1:0:4 ea.) F, W Prerequisite: audition.

**329R. Folk Ensemble.** (1:0:4 ea.) F, W Prerequisite: director's consent.
Traditional bluegrass ensemble. Performs with BYU International Folk Dancers.

**330R. Steel Band.** (1:0:2 ea.) F, W Prerequisite: director's consent.

**331R. Jazz Combos.** (1:1:2 ea.) F, W Prerequisite: audition.

**332R. Show Band.** (1:0:6 ea.) F, W Prerequisite: audition.
Contemporary and traditional show music (Young Ambassadors) and ethnic music (Lamanite Generation).

**333R. Jazz Ensemble.** (1:0:4 ea.) F, W, Sp Prerequisite: audition.
Includes Jazz Ensemble (big band), Jazz Lab Band (entry-level big band), and Vocal Jazz Ensembles.

**334R. Synthesis.** (1:0:4 ea.) F, W Prerequisite: audition.

**337R. Symphony Orchestra.** (1:0:4 ea.) F, W, Sp Prerequisite: audition.

**338R. Philharmonic Orchestra.** (1:0:4 ea.) F, W Prerequisite: audition.

**339R. Chamber Orchestra.** (1:0:2 ea.) F, W Prerequisite: audition.

**341R. Brass Chamber Music.** (1:1:2 ea.) F, W Prerequisite: director's consent.

**342R. Early Music Ensemble.** (1:1:3 ea.) F, W Prerequisite: director's consent.

**343R. Guitar Ensemble.** (1:1:2 ea.) F, W Prerequisite: director's consent.

**344R. Keyboard in Ensemble.** (1:0:3 ea.) F, W, Sp Prerequisite: Music 260R and instructor's consent.
Accompanying and ensemble performance.

**345R. Percussion Ensemble.** (1:0:2 ea.) F, W Prerequisite: director's consent.

**346R. String Chamber Music.** (1:1:2 ea.) F, W, Sp Prerequisite: director's consent.

**347R. Vocal Point.** (1:5:0 ea.) F, W Prerequisite: director's consent.

**348R. Woodwind Chamber Music.** (1:1:2 ea.) F, W Prerequisite: director's consent.

**349R. Junior Recital.** (0:Arr.:Arr. ea.) F, W, Sp Prerequisite: concurrent registration in Music 360R or 460R and instructor's consent. Prerecital hearing required at least three weeks before juried recitals. Fee.

**355R. Recording Workshop.** (1:1:5 ea.) F, W Prerequisite: Music 251 or 257.
Studio projects in multitrack recording for records, broadcast, film, and television.

**356. Audio Electronics 1.** (2:2:2) F Prerequisite: Math 110, Phscs 167.
Basic DC and AC circuits, emphasizing applications in audio.

**357. Audio Electronics 2.** (2:2:0) W Prerequisite: Music 356.
Continuation of Music 356.

**360R. Performance Study.** (1–2:1:1 ea.) F, W, Sp Prerequisite: music major status; jury approval.
Private instruction and studio class. One to four hours of daily practice. Fee.

**363. Vocal Pedagogy.** (3:3:0) W Prerequisite: junior standing as vocal performance or choral music education major or instructor's consent.
Introduction to physiology, acoustics, and pedagogy of singing.

**364. Keyboard Pedagogy.** (2:2:1) F, Sp odd yr. Prerequisite: keyboard performance major status or instructor's consent.
Basic pedagogical principles as applied to keyboard instruments.

**365. Piano Pedagogy.** (2:2:1) W, Sp even yr. Prerequisite: Music 364.
Preparation for supervised private or group teaching.

**366. Organ Pedagogy.** (2:2:1) W even yr. Prerequisite: Music 364.
Preparation for supervised private or group teaching.

**367. Woodwind Pedagogy.** (2:2:1) F odd yr. Prerequisite: instrumental performance major status or instructor's consent.

**368. Brass Pedagogy.** (2:2:1) F even yr. Prerequisite: instrumental performance major status or instructor's consent.

**369. String Pedagogy.** (2:2:1) F even yr. Prerequisite: instrumental performance major status or instructor's consent.

**370. Guitar Pedagogy.** (2:2:1) F odd yr. Prerequisite: instrumental performance major status or instructor's consent.

**371. Developing Children's Musicality, Grades 3–5.** (3:1:2) F odd yr.
Continuation of Music 272 for grades 3–5, emphasizing the relationship of classroom literature to choral experience and instrumental musicianship. Microteaching in a demonstration school.

**372A. Woodwind Workshop.** (1:0:3) F Prerequisite: Music 192, 194, 196, 198.
Learning to play and to teach woodwind instruments; survey of instructional materials; emphasis on clarinet and saxophone.

**372B. Woodwind Workshop.** (1:0:3) W Prerequisite: Music 192, 194, 196, 198.
Continuation of Music 372A. Emphasis on flute, oboe, and bassoon.

**373A. Brass Workshop.** (1:0:3) F Prerequisite: Music 192, 194, 196, 198.
Learning to play and to teach brass instruments; survey of instructional materials; emphasis on trumpet and French horn.

**373B. Brass Workshop.** (1:0:3) W Prerequisite: Music 192, 194, 196, 198.
Continuation of Music 373A. Emphasis on trombone, baritone, and tuba.

**374. Percussion Workshop.** (1:0:3) F (instrumental education), W (choral education) Prerequisite: Music 192, 194, 196, 198.
Learning to play and teach percussion instruments; survey of instructional materials.

**375A. String Workshop.** (1:0:3) F Prerequisite: Music 192, 194, 196, 198.
Learning to play and teach string instruments; survey of instructional materials, emphasis on violin and viola.

**375B. String Workshop.** (1:0:3) W Prerequisite: Music 192, 194, 196, 198.
Continuation of Music 375A. Emphasis on cello and bass.

**376A. Choral Practicum.** (3:3:0) F Prerequisite: Music 235, 276, 292, 294, 296, 298.
Applied conducting technique, score analysis and preparation, evaluating solo performance, and application of learning theory.

**376B. Choral Practicum.** (3:3:0) W Prerequisite: Music 235, 271, 276, 292, 294, 296, 298.
Curriculum design, score analysis and preparation, choral arranging, rehearsal techniques, survey of literature, and vocal pedagogy, including treble voice and changing voice; computers and computer-assisted instruction.

**377A. Instrumental Practicum.** (3:3:0) F Prerequisite: Music 235, 276, 292, 294, 296, 298.
Applied conducting technique, score analysis and preparation, evaluating solo performance, and applying learning theory.

**377B. Instrumental Practicum.** (3:3:0) W Prerequisite: Music 235, 271, 276, 292, 296, 298.
Curriculum design, evaluating ensemble performance, advanced rehearsal techniques, administering secondary instrumental music programs; computers and computer-assisted instruction.

**378. Music for the Elementary Classroom Teacher.** (2:2:0) F, W, Sp, Su Prerequisite: ElEd 310R.
Establishing a classroom environment for musical development; emphasis on appropriate songs, activities, resources, and teaching strategies.

**384. Jazz Improvisation 2.** (2:2:1) W Prerequisite: Music 284 or director's consent.
Intermediate improvisation: theory and technique.

**386R. Songwriting 2.** (2:2:0 ea.) W Prerequisite: Music 186.
Projects in advanced songwriting.

**387R. Composition 4.** (2:1:2 ea.) F, W Prerequisite: Music 288, 292, 294, 296, 298, and junior-level screening.
Composition lessons and seminars in principles of late twentieth-century music.

**391. Jazz Keyboard.** (2:2:0) F, Sp Prerequisite: Music 292, 294, 296, 298, or instructor's consent.
Lead sheets, chord voicings, and other aspects of jazz performance practice.

**395. Form and Analysis.** (3:3:0) F, W, Sp Prerequisite: Music 292, 294, 296, 298.
Analytical study of forms from the common-practice period, including baroque contrapuntal structures and instrumental forms, classical sonata cycle, and romantic part forms.

**399R. Cooperative Education.** (1–6:Arr.:Arr. ea.) F, W, Sp Su Prerequisite: instructor's consent.
Internship or externship in creative, performing, producing, or teaching applications of major course work.

**400R. Topics in Music.** (2:2:0 ea.) F, W; Sp on dem. Prerequisite: Music 292, 294, 296, 298, or instructor's consent.
Topics vary.

**402A. Vocal Literature.** (3:3:0) F Prerequisite: acceptance into 360R or instructor's consent.
Survey of literature with emphasis on art song. Research in area of concentration.

**402B. Vocal Literature.** (2:2:0) Sp on dem. Prerequisite: acceptance into 360R or instructor's consent.
Continuation of Music 402A with emphasis on opera and oratorio.

**403A. Piano Literature.** (2:2:0) F; Sp odd yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Survey of literature. Research in area of concentration.

**403B. Piano Literature.** (2:2:0) W; Sp even yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Continuation of Music 403A.

**404A. Organ Literature.** (2:2:0) F odd yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Survey of literature. Research in area of concentration.

**404B. Organ Literature.** (2:2:0) W even yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Continuation of Music 404A.

**405. Chamber Music Literature.** (2:2:0) W odd yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Survey of literature, including research in field of concentration.

**406. String Literature.** (2:2:0) F odd yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Survey of literature, including research in field of concentration.

**407. Symphonic Literature.** (2:2:0) W even yr. Prerequisite: acceptance into 360R or 460R, or instructor's consent.
Survey of literature, including research in field of concentration.

**426R. Music Dance Theatre: Senior Performance Project.** (1:0:3 ea.) W Prerequisite: ThF 361; consent of MDT advisory committee.
Final senior performance project integrating music, dance, and theatre in a single performance.

**441R. New Music Ensemble.** (1:0:1 ea.) F, W Prerequisite: instructor's consent.

**449R. Senior Recital.** (0:Arr.:Arr. ea.) F, W, Sp Prerequisite: concurrent registration in Music 360R, 387R, or 460R, and instructor's consent. Prerecital hearing required at least three weeks before juried recitals. Fee.

**460R. Performance Study.** (2–4:1:1 ea.) F, W, Sp Prerequisite: major in performance and pedagogy; jury approval.
Advanced private instruction and studio class. Three to five hours of daily practice. Fee.

**466R. Organ Practicum.** (2:2:1 ea.) W odd yr., Sp even yr. Prerequisite: Music 166 or organ performance and pedagogy major.

**468. Jazz Pedagogy.** (1:2:0) On dem.
Organizing and teaching jazz in the secondary school. Designed for the music educator.

**469. Theory and Methods of Studio Teaching.** (1:1:0) F Prerequisite: completion of required pedagogy class; performance instructor's recommendation; concurrent registration in Music 470R.
Applying learning theory and secondary education methods to studio teaching.

**470R. Supervised Teaching.** (1:0:3 ea.) F, W Prerequisite: completion of required pedagogy class and performance instructor's recommendation. Enrollment must include concurrent registration in Music 469 during one of two required semesters.
Applying pedagogical principles to teaching.

**471. Practicum in Children's Musicality.** (3:1:2) W even yr.
Pedagogy for grades 6 and beyond. Children's choir development, including arranging and adapting vocal and instrumental music. Extended pre–student teaching in a demonstration school.

**472. Supervised Teaching in Voice.** (3:1:4) F Prerequisite: Music 363.
Supervised teaching in studio voice: (1) intern teaching in class voice, Music 161, coupled with (2) supervised studio teaching of voice, combined with a weekly seminar concerning business, procedural, and ethical matters relating to teaching voice as a career. Serves as practicum to Music 363.

**481. Orchestration.** (3:3:0) F, W Prerequisite: Music 292, 294, 296, 298.
Scoring for standard orchestral instruments.

**482. Choral Arranging.** (2:2:0) W odd yr., Sp even yr. Prerequisite: Music 292, 294, 296, 298.
Study of published choral arrangements, as well as techniques for adapting and arranging for choirs.

**483. Counterpoint.** (3:3:0) F Prerequisite: Music 292, 294, 296, 298.
Eighteenth-century contrapuntal styles and techniques, emphasizing those of J. S. Bach.

**485. Jazz Arranging and Composition.** (3:3:0) W Prerequisite: Music 295.
Developing concepts and skills related to the orchestration, arranging, and composition of jazz and related contemporary styles of music.

**494R. Independent Readings.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: advising professor's consent as certified by completing a contract obtained from academic studies secretary in E-579 HFAC.

**497R. Projects: Music in Media.** (2:2:0 ea.) F Prerequisite: music major status, Music 186; 287 or 355R.
Projects in composition and arranging for film, broadcast media, sheet music, and records.

**498. Senior Thesis.** (3:Arr.:Arr.) F, W, Sp, Su Prerequisite: senior status and faculty advisor's endorsement.

**499R. Honors Thesis.** (1–6:0:0 ea.) F, W

## 500-Level Graduate Courses (available to advanced undergraduates)

**500. Musical Research Techniques.** (2:2:0) F, W Prerequisite: graduate status.

**501. Music Education Research Techniques.** (2:2:0) Su Prerequisite: graduate status.

**503. Aesthetics.** (3:3:0) On dem.
Fundamental questions of aesthetic theory from classical antiquity to the present, emphasizing musical aesthetics.

**505R. Applied Literature.** (2:2:1 ea.) On dem. Prerequisite: minimum of one enrollment in Music 402–407.
Continuation of Music 402–407.

**506. Choral Literature 1.** (2:2:0) F odd yr. Prerequisite: instructor's consent.
Concentrated analytical study and application of choral literature through Beethoven.

**507. Choral Literature 2.** (2:2:0) W even yr. Prerequisite: instructor's consent.
Concentrated analytical study and application of choral literature from post-Beethoven to the present.

**508. Orchestra Literature 1.** (2:2:0) W Prerequisite: instructor's consent.
Concentrated analytical study and application of orchestral literature of the baroque and classical eras.

**509. Orchestra Literature 2.** (2:2:0) On dem. Prerequisite: instructor's consent.
Concentrated analytical study and application of orchestral literature of the romantic era and the 20th century.

**510. Band Literature.** (2:2:0) W Prerequisite: instructor's consent.
Concentrated study of band literature through analysis and conducting.

**532R. Score Preparation and Conducting: Instrumental.** (2:2:0 ea.) F

**533R. Score Preparation and Conducting: Choral.** (2:2:0 ea.) F even yr.

**534R. Score Preparation and Direction: Jazz.** (2:2:0 ea.) Su odd yr.

**560R. Performance Instruction.** (1–2:1:0 ea.) F, W, Sp, Su Prerequisite: graduate music student status.
Performance instruction for students not specializing in performance, and for performance students wishing to study secondary instruments. Fee.

**570. Music for Elementary School Teachers.** (2:2:0) On dem. Prerequisite: Music 371, 471, or elementary music teaching experience.
Experiences in teaching various music activities in the elementary school.

**571. Elementary Education Music Pedagogy.** (2:2:0) On dem. Prerequisite: Music 371 and equivalent of elementary education teaching minor in music.
Orff, Dalcroze, and Kodaly materials and techniques.

**575R. Summer Music Workshops and Clinics.** (1–4:Arr.:Arr. ea.)

**576. Fundamentals and Techniques of the Marching Band.** (2:2:2) On dem. Prerequisite: Music 294, 296. For music education majors only.
Planning, charting, and scoring for marching bands.

**581. Twentieth-Century Orchestration.** (3:3:0) W Prerequisite: Music 481.
New techniques for standard and new instruments; analysis and listening.

**583. Sixteenth-Century Counterpoint.** (3:3:0) W Prerequisite: Music 483.
Strict modal counterpoint in sixteenth- century style (Palestrina); includes species, text setting, and motet.

**591. Advanced Topics in Keyboard Harmony.** (2:2:0) F Prerequisite: instructor's consent.
Topics vary.

**595. Score Analysis.** (2:2:0) F, Su
Analysis of representative choral and instrumental works from the Renaissance through contemporary styles.

**596. Schenker Analysis.** (3:3:0) W Prerequisite: Music 395 or equivalent.
Schenker's system of tonal analysis.

**599R. Cooperative Education.** (1–6:Arr.:Arr. ea.) On dem. Prerequisite: instructor's consent.
Internship in creative, performing, producing, or teaching applications of major course work.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Music Faculty

**Professors**

Bachelder, Daniel F. (1975) BM, U. of Montana, 1961; MM, U. of Idaho, 1965; PhD, Brigham Young U., 1976.
Barrus, Clyn D. (1985) Dipl, Vienna Academy of Music, Austria, 1962; MM, DMA, U. of Michigan, 1969, 1971.
Belnap, Parley L. (1965) BA, MA, Brigham Young U., 1950, 1956; DMA, U. of Colorado, 1975.
Dalton, David (1963) BM, MM, U. of Rochester, 1959, 1961; DM, Indiana U., Bloomington, 1970.
Dayley, K. Newell (1970) BS, Brigham Young U., 1964; MM, U. of Southern California, 1966; DA, U. of Northern Colorado, 1986.
Drinkall, Roger (1989) BM, Curtis Inst. of Music, 1959; MM, U. of Illinois, 1962.
Durham, Thomas L. (1978) BM, MM, U. of Utah, 1974, 1975; PhD, U. of Iowa, 1978.
Gotkovsky, Nell (1990) Dipl, Paris National Conservatory, France, 1960.
Mason, James A. (1957) BA, MA, Brigham Young U., 1955, 1957; EdD, Arizona State U., 1970.
Pollei, Paul C. (1963) BM, U. of Utah, 1961; MM, U. of Rochester, 1962; PhD, Florida State U., 1975.
Powley, E. Harrison (1969) BM, MA, PhD, U. of Rochester, 1965, 1968, 1974.
Pratt, Rosalie Rebollo (1979) BM, Manhattanville Coll., 1954; MM, Rosary Coll., 1955; EdD, Columbia U., 1976.
Randall, David M. (1970) BS, Brigham Young U., 1965; MM, Indiana U., Bloomington, 1967; DMA, U. of Iowa, 1970.
Robison, Clayne W. (1973) BA, Brigham Young U., 1962; JD, Harvard U., 1965; BA, Brigham Young U., 1970; MM, DMA, U. of Washington, 1971, 1973.
Sargent, David H. (1976) BA, MA, Brigham Young U., 1966, 1968; MM, DMA, U. of Illinois, 1969, 1975.
Staheli, Ronald J (1978) BA, Brigham Young U., 1972; MM, DMA, U. of Southern California, 1973, 1977.
Stuart-Bachelder, Lila R. (1986) BM, U. of Utah, 1964; MM, DMA, Indiana U., 1968, 1993.
Westwood, Shirley, A. (1989) BM, U. of Kansas, 1956; MM, DMA, U. of Missouri, Kansas City, 1969, 1980.
Wilberg, Mack J. (1984) BM, Brigham Young U., 1979; MM, DMA, U. of Southern California, 1981, 1985.
Williams, Glenn R. (1965) BA, Brigham Young U., 1953; MM, DMA, U. of Rochester, 1954, 1961.

**Associate Professors**

Anderson, Richard Paul (1972) BA, Arizona State U., 1968; MM, Northwestern U., 1970; DMA, U. of Colorado, 1986.
Blackinton, David P. (1980) BM, MM, U. of Michigan, 1964, 1966; DMA, Catholic U. of America, 1975.
Bush, Douglas E. (1978) BA, MM, Brigham Young U., 1972, 1974; PhD, U. of Texas, 1982.
Hicks, Michael D. (1985) BM, Brigham Young U., 1980; MM, DMA, U. of Illinois, 1981, 1984.
Hopkin, J. Arden (1990) BM, Brigham Young U., 1971; MM, North Texas State U., 1974; DMA, U. of Rochester, 1978.
Jessop, Scott Gordon (1980) BS, MS, Utah State U., 1961, 1964; EdS, U. of Utah, 1973; PhD, Brigham Young U., 1980.
Johnson, Steven P. (1987) BA, MA, California State U., Fullerton; 1976, 1979; PhD, U. of California, Los Angeles, 1989.
Kenney, Susan Hobson (1977) BS, U. of Utah, 1966; MA, Brigham Young U., 1978.
Lowe, Laurence (1993) BM, San Francisco Conservatory, 1980; MM, U. of Rochester, 1981.
Peterson, Donald L. (1986) BM, MA, Brigham Young U., 1976, 1983; DMA, Arizona State U., 1986.
Shumway, Jeffrey L. (1985) BM, Brigham Young U., 1976; MM, Juilliard School of Music, 1977; DM, Indiana U., 1982.
Smith, C. Raymond (1982) BM, Brigham Young U., 1975; MM, DM, Indiana U., 1976, 1982.

**Assistant Professors**

Bean, Matthew W. (1991) BA, Brigham Young U., 1983; MM, Manhattan School of Music, 1985; DMA, Indiana U., 1991.
Brough, Ronald P. (1984) BM, MM, North Texas State U., 1981, 1983.
Cook, R. Don (1991) BM, MM, Brigham Young U., 1980, 1982; DMA, U. of Kansas, 1987.
Giovannetti, Geralyn (1990) BM, MM, U. of Western Ontario, 1978, 1980; DMA, U. of Michigan, 1990.
Jaccard, Jerry (1993) BME, U. of Arizona, 1965; MME, Holy Names Coll., 1976; EdD, U. of Massachusetts, 1995.
Jackson, Bret (1993) BM, MM, Brigham Young U., 1989, 1991; DMA, Arizona State U., 1993.
Jones, Stephen M. (1991) BM, Brigham Young U., 1983; MM, DMA, U. of Cincinnati, 1986, 1989.
Peery, Irene W. (1994) BA, MS, Juilliard School of Music, 1969, 1972; DMA, Peabody Conservatory of Johns Hopkins U., 1987.

**Instructors**

Boothe, Randall W. (1982) BA, Brigham Young U.—Hawaii, 1975; MM, Brigham Young U., 1979.
Boren, Murray E. (1994) BM, MA, Brigham Young U., 1975, 1977.
Broomhead, Paul G. (1995) BM, MM, Brigham Young U., 1989, 1990.
Call, R. Steven (1991) BM, MM, Utah State U., 1971, 1975.
Ruppe, Elizabeth A. (1994) BM, MM, Brigham Young U., 1982, 1984.
Rytting, Bryce (1989) BS, U. of Utah, 1977; MFA, Princeton U., 1986.

**Emeriti**

Arbizu, Ray L. (1970) BA, MA, Arizona State U., 1952, 1955.
Bos, Jacob (1953).
Bradshaw, Merrill K. (1957) BA, MA, Brigham Young U., 1954, 1955; MM, DMA, U. of Illinois, 1956, 1962.
Curtis, Brandt B. (1955) BA, Brigham Young U., 1953; MM, DMA, Indiana U., Bloomington, 1955, 1978.
Downs, Robert H. (1966) BM, MM, U. of Missouri, Kansas City, 1957, 1957.
Earl, Don L. (1946) BA, MA, Brigham Young U., 1940, 1947; PhD, Indiana U., Bloomington, 1952.
Gibbons, Rendol L. (1964) BA, MA, Arizona State Coll., 1947, 1954; PhD, U. of Colorado, 1969.
Goodman, A. Harold (1960) BA, U. of Arizona, 1947; MM, EdD, U. of Southern California, 1951, 1960.
Harris, H. Jarolde (1970) BM, Bethany Coll., 1950; MM, Northwestern U., 1954.
Hatton, Gaylen A. (1979) BA, MA, Brigham Young U., 1951, 1954; PhD, U. of Utah, 1964.
Kalt, Percy G. (1966) BS, U. of Utah, 1957; Dipl, Staatliche Hochschule für Musik, Stuttgart, Germany, 1963; MM, U. of Utah, 1968; DMA, U. of Michigan, 1973.
Keeler, Joseph J. (1953) BS, MS, Brigham Young U., 1940, 1950.
Laycock, Harold R. (1949) BA, MA, Brigham Young U., 1937, 1947; DMA, U. of Southern California, 1961.
Laycock, Ralph G. (1953) BA, Brigham Young U., 1941; MS, Juilliard School of Music, 1948; DMA, U. of Southern California, 1970.
Manookin, Robert P. (1959) BA, Brigham Young U., 1955; MM, U. of Illinois, 1959; PhD, U. of Utah, 1967.
Nibley, Reid N. (1969) BFA, MA, U. of Utah, 1950, 1953; DMA, U. of Michigan, 1964.
Nordgren, Quentin R. (1955) BA, MA, Brigham Young U., 1942, 1950; PhD, Indiana U., Bloomington, 1955.
Ripplinger, Donald H. (1975) BA, Brigham Young U., 1954; MS, PhD, U. of Utah, 1965, 1968.
Sardoni, Lawrence W. (1946) BA, MA, Brigham Young U., 1935, 1946.

Smith, Robert Baily (1967) BA, MA, Brigham Young U., 1957, 1967.
Stubbs, Darrel W. (1962) BM, U. of Rochester, 1949; MM, Indiana U., Bloomington, 1952; DMA, U. of Southern California, 1966.
Terry, Elvis B. (1957).
Webb, Fredrick N. (1948) BA, MA, Brigham Young U., 1933, 1954.
Woodward, Ralph (1955) BS, U. of Idaho, 1940; MM, Cincinnati Conservatory, 1948; DMA, U. of Illinois, 1964.

## Near Eastern Languages

See Asian and Near Eastern Languages.

## Near Eastern Studies

See Kennedy Center for International Studies, David M.

## North American Indian Languages

See Linguistics.

## Norwegian

See Germanic and Slavic Languages.

# Nursing

Sandra Rogers, Dean
592 SWKT, PO Box 25532, (801) 378-7204

Lynn Callister, Associate Dean
591 SWKT, PO Box 25532, (801) 378-5375

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594 SWKT, PO Box 25532, (801) 378-5626

College of Nursing Advisement Center
551 SWKT, PO Box 25531, (801) 378-4173

## Admission to Degree Program

The degree programs in the Department of Nursing carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

Brigham Young University's baccalaureate nursing program prepares general practitioners with the knowledge, skills, leadership abilities, and values commensurate with professional nursing practice. Nursing education builds on the sciences, humanities, and religious studies to develop the strong theoretical and practical base necessary to understand and meet the needs of people in various health care settings.

Learning comes alive as students move from the classroom through the clinical simulation laboratory to actual patient care. Students assess, diagnose, and treat actual and potential problems in an effort to promote, restore, or maintain health. Baccalaureate graduates develop their ability to be sensitive to the welfare of others, communicate effectively, evaluate research findings, think critically, solve problems, and utilize appropriate technology as they provide quality nursing care to people of all ages.

## Career Opportunities

There are career positions in various health care settings.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under the following undergraduate degree program.

## Undergraduate Programs and Degrees

BS Nursing

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Nursing

For more information see the 1996–97 BYU Graduate Catalog.

## Undergraduate Admittance Requirements

The following criteria have been established for acceptance and progression in the baccalaureate program.

1. Be fully matriculated at BYU.
2. Have completed the required prerequisite courses with a C grade or higher and an overall grade point average of not less than 3.0 in prerequisite courses. Acceptance into the nursing major is competitive and restricted to a limited number of openings each year. Not all students who meet the minimum GPA and course completion requirements are guaranteed acceptance into the program.

Students are evaluated on a variety of criteria, including, but not limited to academic performance and progression, written communication skills, community, school, and church service, and recommendations from employers and/or educators.

3. Complete the following before beginning nursing courses:
   Engl 115.
   Chem 152, 281.
   FSN 100.
   Mcbio 221, 222.
   Nurs 180.
   Zool 260, 261, 361.

   **Note:** Students may apply to the baccalaureate program during the semester they are completing prerequisite courses.
4. Students with English as a second language: Take the English Proficiency Examination offered by the Linguistics Department plus all ESL service courses as recommended by the examination outcome. Successfully complete Nurs 102. The college requires a TOEFL score of at least 580.
5. Maintain a C grade or above in all nursing courses, including prerequisite and supporting courses.

**Note 1:** Notify the college advisement center before dropping or interrupting course work.

**Note 2:** Transfer credit older than seven years will not apply to the major without prior approval of the associate dean of student affairs.

**Note 3:** Students may repeat only one prerequisite course one time.

Applicants who meet the above criteria are eligible for consideration for acceptance. Students who have been admitted to BYU must apply for the nursing program through the college advisement center (551 SWKT). Students are accepted fall and winter semesters. Application deadlines and requirements are available from the advisement center.

Computers are used in all health care facilities; therefore students are expected to be computer literate when accepted into the College of Nursing.

**Note:** Associate degree registered nurses and licensed practical nurses who wish to enter the baccalaureate program should contact the College of Nursing Advisement Center for specific acceptance information.

## General Information

**Clinical Assignments and Transportation.**

Educational experiences are located in Utah, Salt Lake, and Davis counties. Theory courses are taught in Provo. Clinical experiences are in agencies throughout the Wasatch Front. Visits to agencies and client homes are also required. To achieve the best possible clinical education, students will need to travel at different times during their course work. Access to a car is highly recommended. Students are responsible for their own transportation. Transcultural clinical experiences are located in southern Utah. International clinical experiences are available in Guatemala and Jordan.

## BS Nursing (97 hours*)

**Major Requirements**

1. A C grade or above must be maintained in all required courses.
2. Be accepted into the program.
3. Complete the following:
   Chem 152.
   Zool 260.
   FSN 100.
   Math 110.

   **Note:** Chem 101 is needed prior to Chem 152 if you have had no previous chemistry experience.
4. Complete the following:
   Nurs 180.
   Zool 261.
   Chem 281.
   Stat 221.
5. Select one course from the following:
   FamSc 210, Psych 220.
6. Complete the following:
   Zool 361.
   Mcbio 221, 222.
7. Select one course from the following:
   Soc 112, 323.
   Anthr 101.
8. Complete the following:
   Nurs 290, 292.
9. Complete the following:
   Nurs 310, 312.
   RelC 491, 492 (nursing sections)
10. Complete the following:
    Nurs 314, 380.
    Psych 342.
11. Complete the following:
    Nurs 382, 384.
12. Complete the following:
    Nurs 320, 450R (take twice).
13. Complete the following:
    Nurs 490A, B.

*Hours include courses that may fulfill GE or university requirements.

## Nursing (Nurs)

### Undergraduate Courses

**102. Nursing and Medical Terminology.** (2:2:0) Independent Study also.
Nursing and medical terminology for prenursing and beginning nursing students or those interested in health occupations.

**180. Preview of Nursing.** (1:1:0)
Defines and explores nursing as a potential career opportunity.

**288. Family Health Management.** (2:2:0)
Promotion and maintenance of health over the life span, emphasizing current issues affecting family health.

**290. Nursing Core 1.** (6:3.5:7.5) Prerequisite: admission to nursing major.
Application of nursing process in health assessment/promotion of individuals and families across the life span in community settings.

**292. Nursing Core 2.** (5:2:9) Prerequisite: Nurs 290.
Continuation of Nursing Core 1 with added emphasis on skill development and application of nursing process to hospitalized clients.

**310. Nursing Core 3.** (5:2:9) Prerequisite: Nurs 292.
Increasing competency in applying nursing process to individuals and families in varied health care settings.

**312. Nursing Core 4.** (5:2:9) Prerequisite: Nurs 310.
Increasing competency in applying the nursing process to individuals and families in varied health care settings.

**314. Nursing Core 5.** (5:2:9) Prerequisite: Nurs 312.
Increasing competency in applying the nursing process to individuals and families in varied health care settings.

**320. Nursing Research.** (2:2:0) Prerequisite: an Advanced Writing course, Nurs 290, 292, 310, 312, 314; Stat 221 or comparable statistics course.
Analysis and critique of research in nursing practice.

**370. Professional Nursing and Health Policy.** (3:2:3) Prerequisite: admission to nursing program.
Roles of professional nurses in organizations, politics, and shaping health policy. Open to RNs only.

**380. Nursing of Children in Crisis.** (4:2:6) Prerequisite: Nurs 314.
Nursing interventions for children and their families.

**382. Nursing Adults in Crisis.** (4:2:6) Prerequisite: Nursing 314.
Nursing interventions for individuals and families in crisis.

**384. Psychiatric Nursing.** (4:2:6) Prerequisite: Nurs 314, Psych 342.
Nursing care for clients with complex psychiatric disorders.

**390R. Independent Study in the Practice of Nursing.** (1–9:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**420. Community Nursing.** (4:2:2) Prerequisite: admission to nursing major.
Principles and practices of public health nursing for RNs.

**450R. Special Topics in Clinical Nursing.** (4:4:12 ea.) Prerequisite: Nurs 314.
Experience in clinical nursing specialties.

**490A,B. Capstone.** (4:1:9 ea.) Prerequisite: Nurs 320, 380, 382, 384, 450R (taken twice).
Application of management principles in collaborative nursing care of individuals and families in multiple health care settings.

## 500-Level Graduate Courses (available to advanced undergraduates)

**510R. Special Programs and Projects.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**551. Health Assessment.** (3:3:0)
Development of physical assessment techniques.

**555. Pharmacology in Advanced Practice.** (3:3:0)
Principles of pharmacology and drug therapy for nurse practitioners.

**557. Health Promotion.** (4:4:0) F Prerequisite: admission to graduate program.
Application of concepts, theories, and issues central to health promotion for individuals, families, and communities.

**580R. Nursing Information Systems.** (3:3:0). Prerequisite: admission to nursing major.
Use of computer technology in nursing research, client care, and education.

**590R. Independent Study.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Individualized study.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Nursing Faculty

**Clinical Professor**
Mangum, Sandra (1983) BS, BA., Brigham Young U., 1958, 1959; MN, U. of Washington, 1962.

**Associate Professors**
Baldwin, Joan (1994) BS, MA, Hampton U., 1973, 1975; MSN, U. of San Diego, 1978; DNS, Catholic U., 1992. ,
Fosbinder, Donna (1991) BS, San Diego State U., 1983; MS, U. of San Diego, 1986; PhD, San Diego State U., 1990.
Hammond, Kathleen B. (1964) BS, Brigham Young U., 1960; MS, U. of Utah, 1964.
Lyons, Marilyn (1966) BS, U. of Utah, 1960; MA, New York U., 1966; DNSc, Rush U., 1983.
Mandleco, Barbara L. (1977) BSN, U. of Wisconsin, Madison, 1967; MN, U. of Florida, 1968; PhD, Brigham Young U., 1991.
Rogers, Sandra, Dean (1980) BS, Brigham Young U., 1974; MS, U. of Arizona, 1980; DNSc, U. of California, San Francisco, 1989.
Sorensen, Elaine S., Associate Dean (1987) BS, MS, PhD, U. of Utah, 1972, 1979, 1988.
Tillery, Chloe Ann (1967) BS, Brigham Young U., 1958; MEd, Columbia U., 1968.
Williams, Mary, Associate Dean (1978) BS, Brigham Young U., 1971; MS, U. of Utah, 1979; PhD, U. of Arizona, 1991.

**Associate Clinical Professors**
Anderson, Vickie Lane (1980) BS, MS, Brigham Young U., 1975, 1983.
Memmott, Rae Jeanne (1992) BS, Brigham Young U., 1965; MS, U. of Colorado, 1967.
Riddle, Lana B. (1971) BS, Brigham Young U., 1969; MS, U. of Utah, 1971; PhD, Texas Woman's U., 1984.
Warnick, Myrna (1994) BS, MS, U. of Utah, 1965, 1973.

**Assistant Professors**
Callister, Lynn Clark (1988) BS, Brigham Young U., 1964; MN, Wichita State U., 1988; PhD, U. of Utah, 1993.
Campbell, Lora Jean (1972) BS, Brigham Young U., 1969; MS, U. of Utah, 1972.
Conger, Cynthia O'Neill (1986) BS, San Jose State U., 1970; MS, PhD, U. of Utah, 1987, 1995.
Drake, Richard (1970) BS, Idaho State U., 1965; MS, Wayne State U., 1966; EdD, Brigham Young U., 1992.
Measom, Gary (1991) BS, MS, Brigham Young U., 1978, 1980; PhD, U. of New Mexico, 1992.
Rushton, Patricia (1995) BS, U. of Utah, 1971; MS, PhD, Brigham Young U., 1977, 1989.
Schwartz, Rosanne (1981) BS, MS, Brigham Young U., 1978, 1981; PhD, U. of Florida, 1991.
Wiker, Kathleen M. (1972) BS, MS, U. of Utah, 1965, 1969.
Wilson, Mary Louise (1979) BS, U. of Utah, 1953; MPH, U. of California, Berkeley, 1966; MS, U. of California, San Francisco, 1978.

**Assistant Clinical Professors**
Beckstrand, Renea L. (1987) AS, Ricks Coll., 1979; AS, BS, MS, Brigham Young U., 1981, 1983, 1987.
Hobbins-Garbett, Debra (1995) BS, California State U., Long Beach, 1986; MS, California State U., Dominguez Hills, 1994.
Hunter, Tana (1991) BS, Brigham Young U., 1974; MS, U. of Utah, 1982.
Westien, Mary Jo (1988) BS, U. of North Dakota, 1960; MS, U. of Utah, 1964.

**Instructors**
Abegglen, JoAnn (1985) BS, Brigham Young U., 1967; MS, U. of Utah, 1973; MS, Brigham Young U., 1988.
Bond, Elaine (1991) BS, MS, U. of Utah, 1989, 1990.
Coverston, Catherine R. (1989) AS, Brigham Young U., 1969; BSN, U. of the State of New York, Albany, 1987; MSN, Medical Coll. of Georgia, 1989.

Johnsen, Vickie (1989) AS, Weber State Coll., 1968; BS, MS, Brigham Young U., 1985, 1987.
Streeter, Janyce (1995) BS, MS, Brigham Young U., 1974, 1989.
Wilshaw, Russell (1994) BS, AS, BS, MS, Brigham Young U., 1973, 1976, 1990, 1993.

**Emeriti**

Alley, Laura Ellen (1972) BS, MS, U. of Utah, 1966, 1968.
Andersen, Rayola H. (1971) AD, BS, MS, U. of Utah, 1948, 1949, 1969; MN, Brigham Young U., 1979.
Bartholomew, Jewel A. (1970) BS, Brigham Young U., 1969, MS, U. of Utah, 1976.
Chaffin, Beverly H. (1976) BS, MS, U. of Utah, 1965, 1969.
Cope, Maxine J. (1970) BS, MS, EdD, U. of Utah, 1948, 1957, 1967.
Dyer, Elaine D. (1975) BS, St. Mary Coll., 1946; MS, PhD, U. of Utah, 1955, 1967.
Hammond, Marilyn (1985) BS, MS, U. of Utah, 1953, 1969.
Isaacs, Patricia C. (1977) BS, MS, U. of Utah, 1975, 1977; EdD, Brigham Young U., 1988.
Jensen, Marian (1970) BS, MS, U. of Utah, 1960, 1968; MS, EdD, Brigham Young U., 1979, 1992.
Jorgensen, Evelyn P. (1977) BS, MS, U. of Utah, 1947, 1975.
Leifson, June (1971) BS, Brigham Young U., 1957; MS, Wayne State U., 1964; PhD, Brigham Young U., 1979.
Merrill, Ella E. (1965) BS, U. of Utah, 1956; MPH, U. of California, Berkeley, 1964.
Murphy, Elaine (1967) BS, MS, U. of Utah, 1959, 1963.
Murphy, Millene F. (1985) BS, Brigham Young U., 1963; MS, U. of Utah, 1970; PhD, Brigham Young U., 1982.
Potter, Norma (1953) BS, U. of Utah, 1950; MN, U. of Washington, 1961.
Schmidt, Alice M. (1965) BS, U. of Iowa, 1947; MS, EdD, Brigham Young U., 1964, 1977.
Talmage, Carol (1985) BS, MS, Brigham Young U., 1950, 1984.
Van Drimmelen, Jennie B. (1971) RN, 1941; BS, BS, MS, PhD, U. of Utah, 1961, 1961, 1963, 1971.
Wood, Camilla S. (1973) BS, MS, PhD, U. of Utah, 1947, 1960, 1972.

## Nutrition

See Food Science and Nutrition.

## Organizational Behavior

See Management, J. Willard and Alice S. Marriott School of.

# Philosophy

K. Codell Carter, Chair
3196 JKHB, PO Box 26279, (801) 378-2721

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Philosophy are open enrollment.

## The Discipline

From its first appearance in ancient Greece down to the present, philosophy has sought to understand the world and the place of human beings within it. As it frames ideas by means of which to clarify and explain experience, philosophy discloses its faith in the ultimate lucidity of things. Philosophy's respect for the authority of intelligence fosters a preference for persuasion that is fundamental to personal growth and democratic society.

Students who study philosophy will find that it not only provides insight into life's fundamental concerns, it also helps them develop their capacity for clear thinking and perceptive judgment. Such competence will serve them well as they pursue further education or begin their careers.

## Career Opportunities

Philosophy offers excellent career preparation, but not in the way that, say, accounting does. The value of a major in philosophy resides in the intellectual development it promotes. It lays a foundation on which more specialized study may build. In various standardized tests, philosophy majors tend to do extremely well on the verbal aptitude and on the analytic thinking sections. So philosophy can prepare a student for any type of work that requires highly developed reading and writing skills. Students who elect to major in philosophy should look beyond their bachelor's degree right from the start. For example, philosophy is an excellent background for the study of law or medicine. Those who intend to enter graduate school will need to start early on the foreign-language requirement.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Philosophy |
| BA | Honors in Philosophy and University Honors |
| Minors | Philosophy |
| | Analytic Thinking |
| | Logic |

For help or information on the undergraduate programs, please see your college advisement center.

## BA Philosophy (44 hours*)

#### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following analytic thinking courses:
   Phil 105, 205, 305, 311.
3. Complete the following figures courses:
   a. Complete the following:
      Phil 201, 202.
   b. Select one course from the following:
      Phil 321, 322.
   c. Select one course from the following:
      Phil 330, 331, 332.
   d. Select two courses from the following:
      Phil 340, 341, 342, 343.
4. Complete the following topics courses:
   a. Select one course from the following:
      Phil 213, 214, 215.
   b. Select one course from the following:
      Phil 420, 421, 422, 423.
   c. Complete 6 more hours of philosophy courses at the 400 level (no more than 3 hours of 449R).
5. Complete the following religion course:
   RelA 115 (preferably from a philosophy professor).

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Philosophy and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Philosophy (18 hours*)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Phil 201, 202, 205.
3. Complete three other philosophy courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor Analytic Thinking (15 hours*)

1. No D credit is allowed in minor classes.
2. Complete the following:
   Phil 105, 205, 311.
3. Select one course from the following:
   Phil 201, 202.
4. Complete one other philosophy course.

*Hours include courses that may fulfill GE or university requirements.

## Minor Logic (15 hours*)

1. No D credit is allowed in minor courses.
2. Complete the following:
   Phil 105, 205, 206, 305, 405.

*Hours include courses that may fulfill GE or university requirements.

## Philosophy (Phil)

### Undergraduate Courses

**105. Reasoning and Writing.** (3:3:0) Honors also.
Informal grammar, logic, and rhetoric as tools for reading and writing. Library research. Recommended for philosophy majors and minors. Fulfills GE First-Year Writing requirement. No course challenges accepted.

**110. Introduction to Philosophy.** (3:3:0) Honors and Independent Study also.
Articulating, assessing, and defending fundamental positions on topics such as reason, knowledge, science, education, ethics, politics, and religion.

**201. History of Philosophy 1.** (3:3:0) Honors also.
Western civilization from Greek antiquity to Renaissance, primarily from perspective of philosophy; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**202. History of Philosophy 2.** (3:3:0) Honors also. Prerequisite: Phil 201.
Western civilization from Renaissance to present, primarily from perspective of philosophy; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**205. Deductive Logic.** (3:3:0) F, W, Sp, Su Honors and Independent Study also.
History and use of syllogistic and propositional logic; evaluating arguments with Venn diagrams, truth tables, and Copi-style proofs and proof strategies.

**206. Rhetoric and Inductive Logic.** (3:3:0) On dem.
History and use of informal persuasion and inductive reasoning; use of statistical and probabilistic methods; decision theory.

**210. Science and Civilization 1.** (3:3:0) Honors also.
History of Civilization from Greek antiquity to scientific revolution; methods in early science and their philosophical significance; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**211. Science and Civilization 2.** (3:3:0) Honors also. Prerequisite: Phil 210.
History of Civilization from scientific revolution to present; concepts and methods in modern science and their philosophical significance; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**213. Introduction to Ethics.** (3:3:0)
Nature and justification of moral standards, beliefs, and decisions.

**214. Introduction to the Philosophy of Art.** (3:3:0)
The experience of beauty in nature, in literature, and in the arts.

**215. Introduction to the Philosophy of Religion.** (3:3:0)
Existence and nature of God, God's foreknowledge and man's free will, faith, immortality, and religious experience and language.

**305. Predicate Logic.** (3:3:0) W, Su Prerequisite: Phil 205.
History and use of predicate logic; evaluating arguments with counterexamples and proofs; informal mathematical proofs. Fulfills GE Language/Mathematics requirement.

**311. Philosophical Writing.** (3:3:0) F, W Honors also. Prerequisite: Phil 105, 205.
Writing philosophical papers about philosophical texts or problems. Research methods in philosophy. Library research paper. Fulfills GE Advanced Writing requirement. No course challenges accepted.

**320. Ancient Philosophy.** (3:3:0) Prerequisite: Phil 201.
Selected figures or problems.

**321. Plato.** (3:3:0) Prerequisite: Phil 201.

**322. Aristotle.** (3:3:0) Prerequisite: Phil 201.

**330. Medieval Philosophy.** (3:3:0) Prerequisite: Phil 201.
Selected figures or problems.

**331. Augustine.** (3:3:0) Prerequisite: Phil 201.

**332. Aquinas.** (3:3:0) Prerequisite: Phil 201.

**340. Modern Philosophy.** (3:3:0) Prerequisite: Phil 202.
Selected figures or problems.

**341. Hume.** (3:3:0) Prerequisite: Phil 202.

**342. Kant.** (3:3:0) Prerequisite: Phil 202.

**343. Hegel.** (3:3:0) Prerequisite: Phil 202.

**405. Metalogic.** (3:3:0) Alt. yr. Prerequisite: Phil 305.
Completeness and undecidability of predicate logic; incompleteness of arithmetic and set theory; treatment of related philosophical topics and of nonclassical topics as time permits.

**413. Ethics.** (3:3:0) Alt. yr. Prerequisite: one philosophy course.

**414. Philosophy of Art.** (3:3:0) Alt. yr. Prerequisite: one philosophy course.
Selected figures or problems in aesthetics.

**415. Philosophy of Religion.** (3:3:0) Alt. yr. Prerequisite: one philosophy course.
Selected figures or problems.

**416. Philosophy of Law.** (3:3:0) Prerequisite: one philosophy course.
The relation between natural and enacted law; theories of punishment; utilitarian and nonutilitarian theories of law; liberty.

**417. Philosophy of Education.** (3:0:Arr.) Prerequisite: one philosophy course.
Critical examination of educational theories, ancient and modern, and their implications for current practice.

**418. Science and Religion.** (3:0:Arr.) Prerequisite: one philosophy course.
Epistemological and metaphysical similarities and differences undergirding historical problems in science and religion. Nature and effects of past reconciliations; possibility and desirability of current reconciliations.

**419. Philosophy and Literature.** (3:3:0) Prerequisite: one philosophy course.
Philosophical ideas in literature; philosophical ideas about literature and about the interpretation of literature.

**420. Philosophy of Language.** (3:3:0) Prerequisite: one philosophy course.
Meaning and reference, synonymy, metaphor, exemplification, translation; linguistic, artistic, and perceptual symbol systems.

**421. Metaphysics.** (3:3:0) Prerequisite: one philosophy course.
Basic categories of being: appearance and reality, law, causality, space, time, eternity, deity.

**422. Epistemology.** (3:3:0) Honors also. Prerequisite: one philosophy course.
Meaning, limits, and justification of knowledge.

**423. ( Phil 423-Phscs-Hist 314) History and Philosophy of Science.** (3:3:0) Honors also. Prerequisite: PhyS 100 or instructor's consent.
Scientific explanation, concepts, and models. Philosophical assumptions and criteria for theory selection, as exemplified by historical development of basic ideas in science.

**424. Philosophy of the Social Sciences.** (3:3:0) Prerequisite: one philosophy course.
Consciousness, individuality and community, agency, authenticity, and the sciences of individual and social behavior.

**449R. Philosophical Lecture Series.** (1:1:0 ea.) F, W
Lectures on philosophical topics by faculty and advanced students.

**450R. Contemporary Figures and Problems.** (3:3:0 ea.) Prerequisite: one philosophy course.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Selected topic or figure in philosophy.

## 500-Level Graduate Course (available to advanced undergraduates)

**501R. Graduate Seminar.** (2–5:5:0 ea.) Prerequisite: instructor's consent.
Selected topic, figure, or movement in philosophy, as announced in current class schedule.

## Philosophy Faculty

**Professors**
Carter, K. Codell (1973) BS, MA, U. of Utah, 1963, 1964; PhD, Cornell U., 1968.
Faulconer, James E. (1981) BA, Brigham Young U., 1972; MA, PhD, Pennsylvania State U., 1975, 1977.
Graham, Daniel W. (1986) AB, Davidson Coll., 1970; MA, Brigham Young U., 1975; PhD, U. of Texas, Austin, 1980.
Packard, Dennis Jay (1974) AA, Miracosta Coll., 1966; BA, PhD, Stanford U., 1968, 1974.
Paulsen, David L. (1973) BS, Brigham Young U., 1961; JD, U. of Chicago, 1964; PhD, U. of Michigan, 1975.
Rasmussen, Dennis F. (1970) BS, U. of Utah, 1966; MPhil, PhD, Yale U., 1968, 1970.
Warner, C. Terry (1967) BA, Brigham Young U., 1963; MA, PhD, Yale U., 1965, 1967.

**Assistant Professors**
Anderson, Travis T. (1991) BFA, BA, Brigham Young U., 1985, 1985; MA, PhD, U. of Loyola, Chicago, 1989, 1991.
Hedengren, Paul C. (1981) BA, MA, Brown U., 1971, 1973; PhD, U. of Toronto, Canada, 1983.
Nielsen, Fred Kent (1956) BA, MA, Harvard U., 1954, 1955.
Siebach, James L. (1994) BA, Brigham Young U., 1982; PhD, U. of Texas, 1994.

**Emeriti**
Madsen, Truman G. (1957) BS, MS, U. of Utah, 1951, 1952; MA, PhD, Harvard U., 1957, 1960.
Riddle, Chauncey C. (1952) BS, Brigham Young U., 1947; MA, PhD, Columbia U., 1951, 1958.
Yarn, David H. (1950) BA, Brigham Young U., 1946; MA, EdD, Columbia U., 1949, 1958.

# Physical Education

Earlene Durrant, Chair
221 RB, PO Box 22091, (801) 378-6507

College of Physical Education Advisement Center
205 RB, PO Box 22117, (801) 378-3638

## Admission to Degree Program

The degree programs in the Department of Physical Education carry special enrollment limitations. Please see the college advisement center for specific details.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Health Promotion |
| BS | Physical Education |
| Emphases: | |
| | Athletic Training |
| | Exercise Physiology/Medicine |
| | Physical Therapy |
| | Public School Teaching |
| Minors | Physical Education/Coaching |
| | Elementary Physical Education |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MEd | Physical Education |
| MS | Physical Education |
| EdD | Physical Education Administration, Curriculum, and Instruction |
| PhD | Corrective Physical Education and Rehabilitation |
| PhD | Exercise Science/Wellness |

For more information see the 1996–97 BYU Graduate Catalog.

## BS Health Promotion (59.5–60 hours*)

This major is also offered through the Health Sciences Department.

### The Discipline

Health promotion is a departure from the typical U.S. health paradigm in that the focus is on developing the processes of staying healthy rather than on discovering and treating illnesses. Rising health care costs have spurred an interest in keeping people healthy to avoid unnecessary health-related expenses. Health promotion professionals assist individuals and organizations in improving their health-related procedures and policies so that the goals and aspirations of both are more likely to be fulfilled.

### Career Opportunities

Health promotion personnel find employment with many organizations committed to health enhancement: business, industry, health clinics and resorts, health maintenance organizations, hospitals, insurance companies, senior citizen groups, and voluntary organizations.

### Major Requirements

1. Maintain a high personal fitness level and follow healthy lifestyle habits.
2. Be admitted to the program.
3. No D credit is allowed in major courses.
4. A minimum of 15 major hours must be completed in residence at BYU.
5. Complete the following:
   Hlth 320, 365, 420, 455, 460, 461, 463.
   PE 125, 239, 297, 360, 363, 365, 367, 451, 468.
   Acc 200.
   BusM 300.
   FSN 100.
6. Select 4 hours from the following:
   Hlth 599R.
   PE 399R.

7. Select 12–12.5 hours from the following:
   BusM 340.
   Dance 336.
   EPsy 546.
   FSN 410.
   Hlth 370, 403R, 431R, 465, 466.
   IS 286.
   OrgB 320.
   PE 320, 321, 361, 458.

*Hours include courses that may fulfill GE or university requirements.

## BS Physical Education (60.5 hours*)

### The Discipline

This major is a pedagogy (teacher preparation) major that *does not* result in state teacher certification. Those students interested in teaching in the public schools should select the physical education K–12 major.

### Career Opportunities

Career opportunities are limited without completion of the teaching certification curriculum. Students majoring in this discipline would be prepared for a general master's degree program or entry-level positions in the fitness industry.

### Major Requirements

1. Prior to beginning course work in this major, students must apply for admittance into the Flight Program. The program requires that all students take major courses together as a cohort group. See flight advisor during second semester of sophomore year (221 RB).
2. Maintain a high personal fitness level and follow healthy lifestyle habits.
3. No D credit is allowed in the major courses.
4. A minimum of 15 major hours must be completed in residence at BYU.
5. Complete the following required general education courses:
   HEPE 129.
   Stat 221.
   Zool 260, 261.
   FamSc 210.
6. Complete the following core requirements:
   PE 350, 361, 362, 363, 367.
7. Complete the following:
   PE 206R, 230, 231, 233, 239, 320, 321, 352, 360, 374, 377, 399R, 430, 461, 480.
   Dance 356.
   ScEd 276R.
8. Select one course from the following:
   PE 330R, 335, 341, 342, 343, 344, 345, 346, 347, 348.
9. Select 1 hour from the following:
   PE 136, 137, 146, 147, 155.
10. Demonstrate swimming proficiency: beginning or intermediate swimming; ARC, WSI, or lifeguard training.

*Hours include courses that may fulfill GE or university requirements.

## BS Physical Education: Athletic Training Emphasis (76 hours*)

### The Discipline

The study of athletic training appeals to those who would like to work in a field that combines an athletic setting with health and fitness care. A student in athletic training will learn to apply knowledge of human anatomy, exercise physiology, conditioning, nutrition, and therapy in the prevention, immediate care, and rehabilitation of athletic injuries.

### Career Opportunities

Career possibilities include working with athletic teams at all levels of competition or in a sports medicine clinical setting or other allied health facilities. NATA certification is required, and an advanced degree is recommended.

### Major Requirements

1. Maintain a high personal fitness level and follow healthy lifestyle habits.
2. No D credit is allowed in the major courses.
3. A minimum of 33 hours in the major must be completed in residence at BYU.
4. Apply for acceptance into the athletic training program. See program director during semester of enrollment in PE 320 for an application form. Admission to the program requires the candidate to meet the following criteria:
   a. Complete Zool 260, 261, PE 320, 321.
   b. Have a physical examination.
   c. Submit two letters of recommendation.
   d. Interview with the athletic training staff.
   e. Complete 30 hours of clinical observation or experience in a college or high school athletic training setting.

   Admission to the program is limited, competitive, and dependent upon meeting the above criteria. The athletic training staff will make final selection of candidates following the senior interview. Students must join NATA and pass its examination to certify as an athletic trainer.
5. Pass the senior interview
6. Receive CPR certification each year.
7. Complete the following core courses:
   PE 350, 361, 362, 363, 367.
8. Complete the following:
   PE 320, 321, 351, 420, 422, 424, 425, 426, 460, 468, 469.
   FSN 410, 459.
   Hlth 320.
   Math 110.
   Mcbio 221.
   Psych 111.
   Stat 221.
   Zool 260, 261.
9. Complete 2 hours of the following:
   PE 497R.
10. Complete 8 hours of the following:
    PE 499R.

*Hours include courses that may fulfill GE or university requirements.

## BS Physical Education: Exercise Physiology/ Medicine Emphasis (72.5 hours*)

### The Discipline

The exercise physiology/medicine emphasis explores the intriguing relationship between exercise and the functioning of the human body. The basic concepts of human anatomy, physiology, biomechanics, motor learning, chemistry, physics, and nutrition are mastered to help understand this relationship. The impact that movement and exercise have on the human organism is almost interminable, making study of this discipline enthralling.

Students considering medicine as a profession may want to select this major. While providing most requisite courses for medical school acceptance, it also conveys a healthy-lifestyle, preventive-medicine health care perspective.

### Career Opportunities

Graduating with an exercise physiology/medicine specialization primarily prepares for work in entry-level positions at research institutions, in corporate wellness centers, in cardiac rehabilitation clinics, and with sports teams. Most vocational opportunities require a master's degree or doctorate and certification by organizations such as the American College of Sports Medicine. Positions requiring only a bachelor's degree will be difficult to find.

### Major Requirements

1. Maintain a high personal fitness level and follow healthy lifestyle habits.
2. No D credit is allowed in the major courses.
3. A minimum of 15 hours in the major must be completed in residence at BYU.
4. Complete the following core courses:
   PE 350, 361, 362, 363, 367.
5. Complete the following:
   PE 460, 469.
   Mcbio 221, 222.
   Zool 260, 341, 460.
   Chem 105, 106, 107, 351, 352, 353 (1–2 hours).
   Phscs 105, 106, 107, 108.
   FSN 100.
   Stat 221.
   Biol 130.
   Math 119.

   **Note:** Students going to medical school should take 2 hours of Chem 353.

Premed students: Some medical schools require select classes not required by BYU. For more information contact the Health Professions Advisement Office, 380 WIDB, PO Box 25176, (801) 378-3044.

### Recommended Courses

PE 320 or 462.
Chem 468, 481.
Zool 339 or 439 (premed); 361, 380.

*Hours include courses that may fulfill GE or university requirements.

## BS Physical Education: Physical Therapy Emphasis (75 hours*)

### The Discipline

Physical therapy is a dynamic profession for anyone interested in the health care field. To equip students with the skills and knowledge necessary for entry into a physical therapy school and then into the profession of physical therapy, BYU's physical therapy specialization emphasizes the intriguing subjects of exercise science (functional anatomy, patho-kinesiology, athletic injury, exercise physiology, biomechanics, and motor learning), as well as the traditional physical therapy requirements (zoology, chemistry, physics, psychology, and mathematics).

### Career Opportunities

The undergraduate degree prepares specifically for entrance into physical therapy school. However, with the prephysical therapy undergraduate degree and a GPA of at least 3.0, entrance into most exercise science graduate programs is possible.

### Major Requirements

1. Maintain a high personal fitness level and follow healthy lifestyle habits.
2. No D credit is allowed in the major courses.
3. A minimum of 15 hours in the major must be completed in residence at BYU.
4. Complete the following core courses:
   PE 350, 361, 362, 363, 367.
5. Complete the following:
   Biol 130.
   Chem 105, 106, 107.
   Math 119.
   Mcbio 221, 222.
   PE 321, 460, 462, 469.
   Phscs 105, 106, 107, 108.
   Psych 111, 220, 342.
   Stat 222.
   Zool 260, 276, 460.

**Note:** Some postgraduate schools require select classes not shown above. For more information contact the physical therapy advisement staff (116 RB, [801] 378-3982).

### Recommended Courses

Nurs 102.
Hlth 320, 451, 461.
Chem 152, 281, 351, 352, 481.
Comms 150.
Zool 341, 342, 380, 475, 484, 561.

*Hours include courses that may fulfill GE or university requirements.

## BS Physical Education: Public School Teaching Emphasis (85.5 hours,* including certification hours)

### The Discipline

Students preparing to teach and/or coach physical education will have a variety of experiences that will enhance proficiency in the knowledge and skills requisite to working in the contemporary school setting. Majors learn to perform a variety of sport, fitness, and dance activities personally. After becoming

proficient, students take courses and have practical experiences in teaching and coaching children, adolescents, and adults. The discipline is interesting and rewarding, and those in a teaching/coaching career help others pursue and practice healthy lifestyle habits.

**Career Opportunities**

Graduates seek teaching and physical education/coaching careers in grades K–12. With an advanced degree, teaching and coaching positions at institutions of higher learning are available.

It is recommended that students desiring to be optimally employable in secondary schools complete an acceptable teaching minor and American Coaching Effectiveness Program (ACEP) coaching certification.

**Major Requirements**

1. Prior to beginning course work in the major, students must apply for admittance into the Flight Program. The program requires that all students take the major courses together as a cohort group. See the flight advisor during second semester of sophomore year (221 RB).
2. Maintain a high personal fitness level and follow healthy lifestyle habits.
3. No D credit is allowed in the major courses.
4. A minimum of 15 hours in the major must be completed in residence at BYU.
5. Pass the senior interview.
6. A teaching minor is not required for certification. However, it is strongly recommended.
7. Complete the following required general education courses:
   HEPE 129.
   Stat 221.
   Zool 260, 261
   FamSc 210.
8. Complete the following core courses:
   PE 350, 361, 362, 363, 367.
9. Complete the following:
   PE 206R, 230, 231, 233, 239, 320, 321, 352, 360, 374, 377, 399R, 430, 461, 480.
   Dance 356.
10. Select one of the following:
    PE 330R, 335, 341,342, 343, 344, 345, 346, 347, 348.
11. Select 1 hour from the following:
    PE 136, 137, 146, 157, 155.
12. Demonstrate swimming proficiency.
13. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Physical Education/Coaching (25 hours)

1. Complete the following:
   PE 229, 234, 237, 320, 321, 351, 364, 365, 366, 399R, 430, 450.
2. Select one course from the following:
   PE 206R, 207R.
3. Select one course from the following:
   PE 330R, 335, 341, 342, 343, 344, 345, 346, 347, 348.

## Minor Elementary Physical Education (20 hours*)

1. Be an elementary education major.
2. Complete the following:
   PE 106, 136, 169, 364, 375, 376.
   Hlth 320.
   Dance 275, 365, 378R, 386.
3. Select one course from the following:
   PE 146, 181.
4. Select one course from the following:
   PE 365, 366.
5. Select one course from the following:
   PE 379, 461.
6. Select 2 additional hours from physical education courses.

*Hours include courses that may fulfill GE or university requirements.

## Health/Physical Education (HEPE)

### Undergraduate Course

**129. Fitness and Lifestyle Management.** (2:2:1)
Why a healthy lifestyle is needed and how to write individualized programs to meet these needs.

## Physical Education (PE)

### Undergraduate Courses

**100R. Intercollegiate Athletics (Men).** (0.5:2:10.5 ea.)

**101R. Activities for Fitness and Weight Control.** (0.5:0:2 ea.)

**102R. Adaptive Physical Education.** (0.5:0:2 ea.) Prerequisite: medical referral.

**103. Archery, Beginning.** (0.5:0:2)

**106. Badminton, Beginning.** (0.5:0:2)

**107. Badminton, Intermediate.** (0.5:0:2) Prerequisite: PE 106 or equivalent.

**111. Basketball, Beginning.** (0.5:0:2)

**112. Basketball, Intermediate.** (0.5:0:2) Prerequisite: PE 111 or equivalent.

**116. Bowling, Beginning.** (0.5:0:2) Fee.

**117. Bowling, Intermediate.** (0.5:0:2) Fee.

**120. Cycling.** (0.5:0:2)
Basic knowledge and skills in cycling and bike maintenance.

**121. Diving, Beginning.** (0.5:0:2)

**122. Diving, Intermediate.** (0.5:0:2) Prerequisite: PE 121 or equivalent.

**124. (PE-AnSc) Equitation (Horsemanship).** (0.5:0:2)
Prerequisite: rider weight limit of 200 lbs. or instructor's consent.
Handling, grooming, saddling, and suppling horse and rider. Western and English theory used, emphasizing the independent seat and use of aids. Fee.

**125. Flexibility.** (0.5:0:2)

**126. Fencing, Beginning.** (0.5:0:2)

**127. Fencing, Intermediate.** (0.5:0:2) Prerequisite: PE 126 or equivalent.

**129. Fitness for Living.** (0.5:0:2) Independent Study also. Prerequisite: concurrent registration in Hlth 129 or 130 or demonstrated understanding of basic health principles.
Correct concepts for cardiovascular endurance, strength, flexibility, and weight control.

**131. Golf, Beginning.** (0.5:0:2)

**132. Golf, Intermediate.** (0.5:0:2) Prerequisite: PE 131 or equivalent.

**133. Golf, Advanced.** (0.5:0:2) Prerequisite: PE 132 or equivalent.

**136. Gymnastics, Beginning.** (0.5:0:2)

**137. Gymnastics, Intermediate.** (0.5:0:2) Prerequisite: PE 136 or equivalent.

**138. Gymnastics, Advanced.** (0.5:0:2) Prerequisite: PE 137 or equivalent.
For advanced gymnasts, men and women; consisting of 30 percent A moves, 40 percent B moves, and 30 percent C moves.

**139. Jogging.** (0.5:0:2) Independent Study also.

**141. Karate, Beginning.** (0.5:0:2)

**142. Karate, Intermediate.** (0.5:0:2)

**143R. Physical Training—ROTC.** (0.5:0:2 ea.)
For ROTC students only.

**146. Racquetball, Beginning.** (0.5:0:2)

**147. Racquetball, Intermediate.** (0.5:0:2)

**155. Self-Defense.** (0.5:0:2)
Fundamental principles, skills, and techniques.

**156. Soccer, Beginning.** (0.5:0:2)

**157. Soccer, Intermediate.** (0.5:0:2) Prerequisite: PE 156 or equivalent.

**161. Skiing, Beginning.** (0.5:0:5)
Sections formed on basis of ability, with instruction suited to varying skill levels in skiing fundamentals. Student furnishes own ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)

**162. Skiing, Intermediate.** (0.5:0:5) Fee.

**164. Skiing, Cross-Country.** (0.5:0:2) Fee.

**169. Skill Acquisition and Analysis.** (0.5:0:2)
Required for elementary education majors. Meets one university physical education activity requirement.

**170. Swimming for Nonswimmers.** (0.5:0:2)

**171. Swimming, Beginning.** (0.5:0:2)

**172. Swimming, Intermediate.** (0.5:0:2) Independent Study also. Prerequisite: PE 171 or equivalent.

**174R. Swimming for Students with Disabilities.** (0.5:0:2 ea.)
Can be taken repeatedly to fulfill the university physical education activity requirement for any student with special needs.

**176. Rhythmic Swimming.** (0.5:0:2)
Swimming to music.

**179. Water Aerobics.** (0.5:0:2)
Exercise workout in water emphasizing flexibility, strength, and endurance. For nonswimmers and swimmers.

**181. Tennis, Beginning.** (0.5:0:2)

**182. Tennis, Intermediate.** (0.5:0:2) Prerequisite: PE 181 or equivalent.

**183. Tennis, Advanced.** (0.5:0:2) Prerequisite: PE 182 or equivalent.

**186. Volleyball, Beginning.** (0.5:0:2)

**187. Volleyball, Intermediate.** (0.5:0:2) Prerequisite: PE 186 or equivalent.

**188. Volleyball, Advanced.** (0.5:0:2) Prerequisite: PE 187 or equivalent.

**191. Weight Training, Beginning.** (0.5:0:2)

**192. Weight Training, Intermediate.** (0.5:0:2) Prerequisite: PE 191 or equivalent.
Theory and technique of maximal strength development, emphasizing "power" and "Olympic" lifts.

**196. Wrestling, Beginning.** (0.5:0:2)

**197. Wrestling, Intermediate.** (0.5:0:2) Prerequisite: PE 196 or equivalent.

**200R. Intercollegiate Athletics (Women).** (0.5:0:3 ea.)

**201R. Extramural Sports.** (0.5:0:2 ea.)

**203R. Performance Psychology.** (1:1:1 ea.)
Relaxation and imagery for athletes and performing artists.

**206R. Officiating Team Sports.** (1:0.5:1.5 ea.)
Rules, techniques, problems, and procedures in officiating football, basketball, volleyball, soccer, softball, or baseball. Suggested for those who wish to officiate in intramural and church programs. National Federation or OSA examinations given.

**207R. Officiating Individual Sports.** (1:0.5:1.5 ea.)
Rules, techniques, problems, and procedures in officiating men's and women's gymnastics, swimming and diving, racquet sports, track and field, or wrestling.

**229. Basic Sport Pedagogy.** (2:2:0)
Sport pedagogy for students *minoring* in physical education/coaching.

**230. Sports and Activities 1** (2:0:6) Prerequisite: acceptance into flight program.
Development of mature motor patterns in activities that include soccer, flag football, track and field, volleyball, basketball, and Ultimate Frisbee.

**231. Sport and Activities 2.** (2:0:6) Prerequisite: acceptance into flight program.
Development of mature motor patterns in activities that include: badminton, tennis, archery, bowling, golf, and recreational games.

**233. Lifetime and Leisure Activities.** (1:0:3) Prerequisite: acceptance into flight program.
Exposure to and development of skills in contemporary, noncompetitive, lifelong leisure activities.

**234. Team Sport Fundamentals.** (1:0:4) Prerequisite: PE 229.
Skill and pedagogy development in soccer and volleyball. For *minors* in physical education/coaching only.

**237. Individual Sport Fundamentals.** (1:0:4) Prerequisite: PE 229.
Skill and pedagogy development in tennis and weight training. For *minors* in physical education/coaching only.

**239. Weight Training: Skills and Teaching Techniques.** (0.5:0:2)

**242. Track and Field: Skills and Teaching Techniques.** (1:1:3)

**276. Water Safety Instructor Training.** (2:1:3) Prerequisite: ARC Swimmer–level competency.
Leads to American Red Cross WSI certification. Swimming teaching methods that include teaching swimming to special needs students.

**277. Techniques of Lifeguarding.** (2:1:3) Prerequisite: swim competency test (given first day of class).
First-aid and lifeguard skills training, including instruction in CPR, and American Red Cross certification for lifeguard training.

**297. Introduction to Health Promotion Education.** (2:1:3)
Seminars and field trips.

**320. Basic Athletic Training.** (3:3:0) Prerequisite: Zool 260; concurrent registration in PE 321.
Recognition, evaluation, and care of athletic injuries. Techniques in taping, preventing, and rehabilitating injuries.

**321. Basic Athletic Training Lab.** (0.5:0:0.5) Prerequisite: concurrent registration in PE 320. Fee.

**330R. Coaching Selected Sports.** (2:1:2 ea.) Prerequisite: appropriate skills and teaching techniques class or equivalent.
Theory, fundamentals, strategies, and techniques of coaching tennis, golf, badminton, archery, soccer, or field hockey.

**335. Coaching Competitive Swimming.** (2:1:2) Prerequisite: intermediate swimming skills.
Analysis of strokes, starts, turns, and legalities of each.

**341. Coaching Basketball.** (2:2:1) Prerequisite: PE 230 or equivalent.

**342. Coaching Track and Field.** (2:1:2) Prerequisite: PE 242R or equivalent.

**343. Coaching Gymnastics.** (2:1:2) Prerequisite: PE 136 or equivalent.

**344. Coaching Football.** (2:2:1)

**345. Coaching Volleyball.** (2:2:1) Prerequisite: PE 230 or equivalent.

**346. Coaching Baseball and Softball.** (2:2:1) Prerequisite: PE 230 or equivalent.

**347. Coaching Soccer.** (2:1:2) Prerequisite: PE 156 or equivalent.
Methodology, skills, and strategies of coaching soccer.

**348. Coaching Wrestling.** (2:1:2) Prerequisite: PE 196 or equivalent.
Some emphasis on managing meets and tournaments.

**350. Historical, Philosophical, and Sociological Foundations of Physical Education.** (3:3:0)

**351. Administration of Athletic and Intramural Programs.** (2:2:0) Independent Study also.
Management styles and techniques for interschool athletic and intramural programs; policies concerning eligibility, contest management, safety, facilities, and legal aspects. For prospective coaches, teachers, athletic directors, and athletic trainers.

**352. Legal and Administrative Aspects of Physical Education.** (3:3:0) Prerequisite: acceptance into flight program.
Principles of physical education and intramural management including facilities, equipment, fiscal matters, personnel, public relations, and program administration. Legal considerations of physical education and sport programs, including constitutional rights, gender, liability, and risk management.

**360. Measurement, Evaluation, and Technology.** (3:3:0) Prerequisite: PE 363, 367.
Elementary statistical testing and technological tools applicable to physical education. Course meets secondary education technology requirements.

**361. Introduction to Motor Learning.** (3:2:2) Prerequisite: Stat 221 or equivalent.
Motor and cognitive factors influencing acquisition of motor skills.

**362. Kinesiology and Biomechanics of Sport.** (4:3:2) Prerequisite: Zool 260, Math 99 or equivalent, Phscs 100 or equivalent.

**363. Physiology of Activity.** (3:3:0) Prerequisite: Zool 261 or 460; concurrent registration in PE 367.

**364. Scientific Bases of Sport 1: Motor Learning.** (2:2:0)
Motor learning principles for physical education/coaching minor.

**365. Scientific Bases of Sport 2: Kinesiology.** (2:2:0)
Kinesiology and biomechanics for physical education/coaching minor.

**366. Scientific Bases of Sport 3: Physiology of Activity.** (2:2:0)
Physiology of activity for physical education/coaching minor.

**367. Physiology of Activity Lab.** (0.5:0:0.5) Prerequisite: concurrent registration in PE 363.

**374. Fundamental Skills and Teaching Methods for Elementary Physical Education.** (2:1:3) Prerequisite: acceptance into flight program.
Identifying and demonstrating fundamental skills; identifying immature and mature movement patterns; selecting developmentally appropriate activities; appropriate management techniques.

**375. Physical Education for Elementary School Teachers.** (2:1:3) Prerequisite: PE 169.

**376. Practical Experience in Teaching Elementary School Physical Education.** (2:0:4) Prerequisite: PE 375.

**377. Secondary Practicum.** (2:1:2) Prerequisite: acceptance into flight program.
Written and practical teaching assignments designed to help prospective teachers plan, conduct, and evaluate lessons and unit plans appropriate to adolescent students.

**379. Physical Education for Special Education Teachers.** (2:2:2)

**399R. Cooperative Education: Internship.** (1–9:0:Arr. ea.) Prerequisite: advisor's consent; PE 297 for health promotion majors.
On-the-job experience for physical education majors and coaching and physical education minors.

**420. Advanced Athletic Training.** (3:2:2) Prerequisite: PE 320 and 50 hours in training room.
Advanced theory and practical skills in prevention, immediate care, and treatment of injuries.

**422. Therapeutic Modalities in Treatment of Athletic Injuries.** (3:2:2) Prerequisite: PE 420.
Hydrotherapy, massage, traction, radiant energy, heat, cold, and electrotherapy.

**424. Introduction to Orthopaedic Sports Medicine.** (2:1:1) Prerequisite: PE 422. For athletic training students.
Orthopaedics of the injured athlete.

**425. Examination of Athletic Injuries.** (2:2:0) Prerequisite: PE 420.
Examining the injury.

**426. Rehabilitation of Athletic Injuries.** (2:2:0) Prerequisite: PE 420.

**430. Theory of Coaching.** (2:2:2)

**450. Psychology of Sport.** (2:2:0)

**451. Management and Implementation of Adult Fitness Programs.** (3:3:0)
Teaching and communication strategies.

**458. Physical Education—Athletics, Sport, and the Law.** (2:2:0)
Detailed analysis of legal liabilities and issues relative to supervising physical education, recreation, and athletic programs.

**460. Orthopaedic Impairments and Therapeutic Exercise.** (3:3:0) Prerequisite: PE 362; Zool 260 or equivalent.
Fundamentals of body mechanics and therapeutic exercise, coupled with kinesiological principles for detection and correction of basic neuromusculoskeletal anomalies.

**461. Teaching Special Populations.** (3:2:1) Prerequisite: acceptance into flight program.
Program, legal mandates, management techniques, and assessing and identifying special needs students.

**468. Problems in Conditioning.** (2:2:0) Prerequisite: PE 363.
Applying scientific principles to problems in conditioning.

**469. Functional Anatomy and Kinesiology.** (4:3:2) Prerequisite: PE 362, 363, 460, or equivalent.
Study of human anatomy with application of basic kinesiological principles.

**476. Elementary Student Teaching in Physical Education.** (4:1:7) Prerequisite: completion of courses in public school teaching major and instructor's consent.

**480. Curriculum Development in Physical Education.** (1:1:0)
Introduction to curriculum models; sequential steps in curriculum design; planning and partial implementation of a physical education curriculum; integration of personal philosophy into curriculum planning.

**497R. Undergraduate Research and Study.** (1–4:0:Arr. ea.) Prerequisite: PE 422 for athletic training majors and/or instructor's consent.
Individual research and study in any area of physical education.

**499R. Practicum.** (1–8:0:Arr. ea.) Prerequisite: PE 320, 420, and instructor's consent.
Academic and practical application of skills for athletic trainers.

## 500-Level Graduate Courses (available to advanced undergraduates)

**550. Motor Development and Growth of Children.** (2:2:3)
Existing body of knowledge regarding motor development of children and significance of physical activity in early childhood.

**560. Orthopaedic Pathomechanics.** (2:2:1) Prerequisite: PE 460 or equivalent.
Advanced analysis of neuromusculoskeletal deformities and/or injury. Therapeutic exercise and the use of orthoses.

**582. Physical Education for the Mentally Retarded.** (2:2:0) Prerequisite: baccalaureate degree in physical education.
Theoretical and practical aspects of teaching mentally retarded child and adult.

**586R. Workshop in Fitness and Sport.** (1–4:Arr.:Arr. ea.) Prerequisite: undergraduate major in physical education or equivalent.

**599R. Practicum.** (1–9:0:Arr. ea.) Prerequisite: PE 468 or concurrent registration for conditioning coaches.
Field experience for physical education students; 50 hours of volunteer service in approved organization required per credit hour.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Physical Education Faculty

**Professors**

Allsen, Philip Edmond (1966) BS, Ricks Coll., 1955; MS, Brigham Young U., 1960; EdD, U. of Utah, 1965.
Conlee, Robert K. (1977) BS, MS, Brigham Young U., 1969, 1970; PhD, U. of Iowa, 1975.
Durrant, Earlene (1973) BS, MS, EdD, Brigham Young U., 1962, 1963, 1975.
Fisher, A. Garth (1969) BS, Brigham Young U., 1955; MA, Sacramento State Coll., 1966; PhD, U. of New Mexico, 1969.
Harrison, Joyce M. (1969) BA, MA, California State U., Long Beach, 1964, 1966; EdD, Brigham Young U., 1973.
Lockhart, Barbara D. (1991) BS, MA, Michigan State U., 1964, 1967; EdD, Brigham Young U., 1971.
McGown, Carl M. (1972) BS, MS, Brigham Young U., 1963, 1964; PhD, U. of Oregon, 1971.
Tucker, Larry (1988) BS, MS, Brigham Young U., 1978, 1979; PhD, Southern Illinois U., 1981.

**Athletic Professionals**

Edwards, R. LaVell (1962) BS, Utah State U., 1952; MS, U. of Utah, 1960; EdD, Brigham Young U., 1978.
Michaelis, Elaine (1960) BS, MS, Brigham Young U., 1960, 1962.
Poole, R. Craig (1980) BS, MS, Utah State U., 1964, 1967; EdD, U. of Utah, 1970.
Stiggins, Charles (1978) BS, MS, Brigham Young U., 1977, 1978.
Valentine, Ann (1966) BS, Slippery Rock State Coll., 1955; MS, Pennsylvania State U., 1961.
Witbeck, Alan R. (1955) BS, MS, Brigham Young U., 1952, 1954.

**Associate Professors**

Barker, Ruel M. (1971) BS, Utah State U., 1961; MS, EdD, Brigham Young U., 1964, 1971.
Blakemore, Connie L. (1978) BS, U. of Utah, 1960; MS, Brigham Young U., 1967; EdD, Temple U., 1984.
Clarke, Mark S. (1982) BS, U. of Arizona, 1963; MS, EdD, Brigham Young U., 1964, 1971.
Draper, David (1992) BS, Utah State U., 1982; MA, Brigham Young U., 1984; EdD, Northern Illinois U., 1988.
Hall, Larry Thomas (1978) BS, MS, Brigham Young U., 1970, 1971; PhD, U. of Utah, 1976.
Leishman, Courtney M. (1962) BS, Utah State U., 1958; MS, EdD, Brigham Young U., 1962, 1976.
Lewis, Kathryn (1972) BS, Brigham Young U., 1955; MA, Long Beach State Coll., 1962; EdD, Brigham Young U., 1978.
Myrer, William (1990) BS, U. of Calgary, Canada, 1974; MA, U. of Windsor, Canada, 1977; PhD, Brigham Young U., 1983.
Ricard, Mark (1994) BS, U. of Vermont, 1978; MAT, Southeast Missouri State U., 1982; PhD, Southern Illinois U., 1986.
Silvester, L. Jay (1969) BS, MS, Utah State U., 1959, 1970; EdD, Brigham Young U., 1976.

**Associate Athletic Professionals**

Chow, Norman Y. H. (1976) BS, MS, U. of Utah, 1968, 1970; EdD, Brigham Young U., 1978.
Olson, Mel J. (1970) BS, MA, EdD, Brigham Young U., 1970, 1973, 1980.

**Assistant Professors**

Aldana, Steve (1994) BS, MS, Brigham Young U., 1986, 1988; PhD, Arizona State U., 1991.
Chamberlain, Diane (1969) BA, California State U., Los Angeles, 1966; MS, Brigham Young U., 1969; EdD, U. of Utah, 1984.
George, Jim (1995) BS, MA, Brigham Young U., 1984, 1986; PhD, Arizona State U., 1995.
Hawkes, Nena Rey (1960) BS, Utah State U., 1954; MS, Brigham Young U., 1965; PhD, Union Institute, 1993.
Schulthies, Shane S. (1991) BS, Brigham Young U., 1987; MS, Texas Woman's U., 1989; PhD, Brigham Young U., 1991.
Wilkinson, Carol (1995) BEd, Durham U., England, 1976; MS, EdD, Brigham Young U., 1981, 1983.
Zanandrea, Maria (1995) BA, MS, EdD, Brigham Young U., 1983, 1985, 1992.

**Assistant Athletic Professionals**

Brockbank, Bruce (1992) BS, MS, Brigham Young U., 1990, 1992.

French, Roger W. (1980) BS, U. of Minnesota, Minneapolis, 1956; MA, Memphis State U., 1958.
Howard, Gary Ray (1975) BS, MRE, Brigham Young U., 1967, 1970.
Julkunen, A. Olavi (1975) BS, Brigham Young U., 1971.
Lamb, Barry (1994) BS, U. of Oregon, 1978; MA, Arizona State U., 1988.
Merrill, R. Gaye (1981) BS, Brigham Young U., 1978; MS, Indiana U., Bloomington, 1979.
Noel, Robert Edward (1979) BS, Brigham Young U., 1964.
Powers, Timothy J. (1975) BS, U. of Montana, 1968; MA, San Jose State U., 1973.
Pullins, Gary D. (1976) BA, MA, Brigham Young U., 1969, 1975.
Ramage, Thomas J. (1973) BS, MS, Utah State U., 1957, 1962.
Reid, Roger L. (1978) BS, Weber State Coll., 1968.
Russell, Keith (1992) BS, Brigham Young U., 1973.
Sakamoto, Makato (1988) BS, U. of Southern California, 1970; MA, U. of California, Los Angeles, 1980.
Schmidt, Kenneth (1983) BS, MS, U. of Utah, 1964, 1969.
Shane, Patrick (1985) BS, MS, Brigham Young U., 1968, 1970.

**Athletic Coaches**

Adams, Soni (1994) BS, U. of Utah, 1981; MS, Eastern Washington U., 1990.
Bosco, Robbie (1990) BS, MA, Brigham Young U., 1985, 1989.
Curtis, George (1985) BS, Southern Utah State Coll., 1971.
Ingle, Tony (1989) BA, Huntingdon Coll., 1976; MS, North Georgia Coll., 1980.
Pella, Chris (1986) BS, Utah State U., 1966.
Pincock, Stephen (1993) BS, Brigham Young U., 1990.
Reynolds, Lance (1983) BS, Brigham Young, U., 1980.
Walker, DeWayne M. (1994) AA, Pasadena City Coll., 1980; BA, Regents Coll., 1992.

**Emeriti**

Bangerter, Blauer L. (1953) BA, Brigham Young U., 1951; MS, PhD, U. of Utah, 1955, 1964.
Bestor, Rollie R. (1969) BS, MS, U. of Wisconsin, Madison, 1954, 1958; EdD, Brigham Young U., 1969.
Bunker, Robert E. (1949) BS, Utah State U., 1937.
Call, C. Boyd (1960) BS, U. of Utah, 1950; MS, Brigham Young U., 1963; PhD, U. of Oregon, 1967.
Cryer, Walter (1964) BS, MS, U. of Illinois Medical, 1952, 1959; EdD, Brigham Young U., 1975.
Felt, Richard G. (1967) BS, MA, Brigham Young U., 1958, 1980.
Francis, Rulon S. (1963) BS, MS, Brigham Young U., 1952, 1967; PhD, U. of Utah, 1971.
Hirst, Cyntha C. (1948) BA, U. of Utah, 1947; MS, U. of Washington, 1952; PhD, U. of Utah, 1974.
Jarman, Boyd O. (1969) BS, Brigham Young U., 1954; MS, EdD, U. of Oregon, 1959, 1965.
Jensen, Clayne R. (1964) BS, MS, U. of Utah, 1952, 1956; EdD, Indiana U., Bloomington, 1963.
Jones, J. Richard (1961) BS, MS, Brigham Young U., 1951, 1955; EdD, U. of Northern Colorado, 1967.
Kimball, C. Rodney (1947) BS, MS, Brigham Young U., 1955, 1963.
Millet, W. Floyd (1963) BA, Brigham Young U., 1934; MS, U. of Southern California, 1939.
Roundy, Elmo S. (1963) BS, MEd, Brigham Young U., 1953, 1956; EdD, U. of California, Los Angeles, 1965.
Tucker, Karl L. (1961) BS, MS, Brigham Young U., 1952, 1964.
Vickers, Betty J. (1971) BS, Kent State U., 1955; MA, California State U., Los Angeles, 1960; EdD, Brigham Young U., 1976.
Wallace, Lu (1956) BS, Utah State U., 1954; MS, Washington State U., 1960.
Watts, Stanley H. (1947) BS, Brigham Young U., 1938.

# Physical Science

## Physical Science (PhyS)

## Undergraduate Courses

Administered by the Department of Physics and Astronomy.

**100. Physical Science.** (3:3:0) F, W, Sp, Su Independent Study also.

Conceptual lectures and demonstrations of most significant and universal laws and models describing the physical world by faculty from Physics and Astronomy, Chemistry, and Geology departments. Satisfies GE Physical Science requirement.

**110A. Physical Science A.** (4:3:2) F, W, Sp For majors in elementary, early childhood, or special education.

Classical and modern physics and chemistry as they relate to current concepts of physical environment. Lab exercises illustrate many topics with concrete examples. With PhyS 110B satisfies GE Physical Science requirement.

**110B. Physical Science B.** (2:2:1) F, W, Su For majors in elementary, early childhood, or special education.

Concepts and methods used in geology to interpret rock record, protect and make use of earth materials, and better understand natural environment and how to live in it. Lab studies, field trips, home projects. With PhyS 110A satisfies GE Physical Science requirement.

**111A. Physical Science A Laboratory.** (1:0:2) F, W, Sp Prerequisite: for majors in elementary, early childhood, or special education.

Laboratory exercises that illustrate physics and chemistry principles. To accompany or follow PhyS 100 lecture course. Not for students enrolled in PhyS 110A or 110B.

**111B. Physical Science B Laboratory.** (1:0:2) F, W, Sp Prerequisite: for majors in elementary, early childhood, or special education.

Laboratory exercises that illustrate geology principles. To accompany or follow PhyS 100 lecture course. Not for students enrolled in PhyS 110A or 110B.

# Physics and Astronomy

Dorian M. Hatch, Chair
270 FB, PO Box 24359, (801) 378-2427

College of Physical and Mathematical Sciences Advisement Center
1116 TMCB, PO Box 26539, (801) 378-6270

## Admission to Degree Program

All degree programs in the Department of Physics and Astronomy are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Through its undergraduate offerings the Department of Physics and Astronomy seeks to help students of all disciplines to become more fully aware of our physical environment, to understand the structure and behavior of matter and energy, to realize that man is capable of comprehending natural laws, and to appreciate both the strengths and the limitations of science.

## Career Opportunities

A degree in physics and astronomy can provide:

1. Perspective on science and an introduction to the role of physics in the human quest for understanding.
2. Education for those who intend to pursue graduate work in physics or astronomy.
3. Preparation for those who intend to enter industrial or governmental service as physicists or astronomers.
4. Undergraduate education for those who will pursue graduate work in business (e.g., an MBA) and law.
5. Fundamental background for other physical sciences and engineering.
6. Physics fundamentals required by the biological science, medical, dental, and nursing programs.
7. Education in the subject matter of physics for prospective teachers of the physical sciences.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BA Physics Teaching
BS Physics
BS Honors in Physics and University Honors
BS Applied Physics
Emphases:
Computer Science
Selected Options
BS Honors in Applied Physics and University Honors
Emphases:
Computer Science
Selected Options
Minors Physics
Physics Teaching

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Physics
PhD Physics
PhD Physics and Astronomy

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. It is recommended that a student complete the following courses in high school:
   3 units of English
   1 unit of physical science, either chemistry or physics.
   4 units of mathematics, consisting of 2.5 units of algebra, 1 unit of geometry, and 0.5 unit of trigonometry (also, calculus if available). This should qualify students to

begin college mathematics with Math 112 or 113, Calculus 1 or 2.

Because mathematics provides the foundation for all work in the physical and mathematical sciences, particular attention is paid to high school preparation in this subject.

To decide which mathematics course should be taken first, write to the Mathematics Department, 292 TMCB, and request a mathematics placement test.

2. Students in physics should take mathematics beginning the first semester of the freshman year. The initial course is determined by the results of the mathematics placement examination. Contact the Department of Mathematics to arrange to take this examination. Physics majors should ordinarily begin with Math 112 or 113; if preparation is inadequate, as indicated by the placement exam, students will need to begin with Math 110. In the latter case, students might wish to enter the university during the summer term and bring their mathematics preparation to the point where they can take Math 112 concurrently with Phscs 121 during the fall semester.
3. Language: Students are strongly urged to learn a foreign language (German, Russian, or French) during their undergraduate career,.
4. Students are strongly urged to learn a computer language.

## BA Physics Teaching (70–71 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Contact the Education Advisement Center for entrance requirements into the certification program.
3. A teaching minor is not required for certification. However, it is strongly recommended.
4. Complete the following:
   Phscs 121, 122, 214, 221, 222, 340.
   Phil 423.
5. Complete the following:
   Math 112, 113, 343.
6. Select 12 hours from the following or any 300-, 400-, or 500-level course:
   Phscs 127, 137, 167.
7. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

**Recommended**

Chem 105, 106.

*Hours include courses that may fulfill GE or university requirements.

## BS Physics (60 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Phscs 121, 122, 214, 221, 222, 318, 321, 340, 380, 431, 441, 442, 471, 551, 552.
3. Complete the following:
   Math 112, 113, 343, 344, 434.
4. Complete 2 hours of the following:
   Phscs 498R. (Students should meet with the department undergraduate research coordinator early in the junior year to obtain information about research projects and senior thesis procedures.)

**Recommended Courses**

CS 130 or 142.
Chem 111.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Physics and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BS Applied Physics: Computer Science Emphasis (64 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   Phscs 121, 122, 221, 222, 340, 381, 431, 441, 581.
3. Complete the following:
   Math 112, 113, 311, 343, 344, 434.
4. Complete the following:
   CS 142, 235, 236, 240, 252.
5. Select one course from the following:
   CS 428, 452.

**Recommended Course**

Phscs 442 is strongly recommended.

*Hours include courses that may fulfill GE or university requirements.

## BS Applied Physics: Selected Options Emphasis (58 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Consult with a faculty advisor as early in career as possible.
3. Complete the following:
   Phscs 121, 122, 214, 221, 222, 318, 321, 340, 380, 441, 442.
4. After gaining department chair's approval, complete 12 hours of electives.
5. Complete the following:
   Math 112, 113, 343, 344, 434.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Applied Physics and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Physics (22 hours*)

Phscs 121, 122, 214, 221, 222, 340.
Math 112, 113.

*Hours include courses that may fulfill GE or university requirements.

## Minor Physics Teaching (24 hours*)

Phscs 121, 122, 214, 221, 222, 314.
Math 112, 113.

*Hours include courses that may fulfill GE or university requirements.

### Astronomy

Physics majors whose primary interest is astronomy or astrophysics must fill the requirements for one of the preceding physics major programs. It is recommended that these students also take Phscs 129 and 130 during the freshman year and Phscs 527, 528, and 529 in the junior and senior years.

## Physics and Astronomy (Phscs)

### Undergraduate Courses

**100. Fundamentals of Physics.** (3:3:0) F
Principles of classical and modern physics as they relate to current concepts of our physical environment.

**105. Introductory Applied Physics.** (3:3:0) F, W, Sp Prerequisite: high school algebra and trigonometry. Recommended: concurrent registration in Phscs 107.
Applied physics course not requiring calculus. Topics include mechanics, heat, wave motion, sound.

**106. Introductory Applied Physics.** (3:3:0) F, W, Su Prerequisite: Phscs 105 or equivalent. Recommended: concurrent registration in Phscs 108.
Continuation of Phscs 105. Topics include electricity and magnetism, atomic and nuclear physics, and optics.

**107. Introductory Applied Physics Laboratory.** (1:0:3) F, W, Sp Prerequisite: Phscs 105 or concurrent registration.

**108. Introductory Applied Physics Laboratory.** (1:0:3) F, W, Su Prerequisite: Phscs 106 or concurrent registration.

**121, 122. Principles of Physics.** (3:3:1 ea.) F, W, Sp, Su Prerequisite: for 121, concurrent registration in Math 112; for 122, concurrent registration in Math 113.
Mechanics; electricity and magnetism. (See Phscs 221 for waves, optics, thermal physics.) For science and engineering students. Walk-in laboratory experience weekly.

**127. Descriptive Astronomy.** (3:3:0.5) F, W, Sp, Su Honors and Independent Study also.
Nonmathematical presentation of our knowledge of the content and history of the cosmos, frequently using observatory and planetarium. Students taking this course may not receive credit for Phscs 129 or 130.

**Note:** Phscs 128 is not a laboratory course for Phscs 127.

**128. Elementary Astronomy Laboratory.** (1:0:2) F Prerequisite: Phscs 127 or 129.
Laboratory course providing firsthand experience in observing and analyzing astronomical phenomena.

**129, 130. Introduction to Astronomy.** (2:2:0 ea.) 129: F; 130: W Prerequisite: high school algebra and trigonometry.
For students primarily interested in the sciences. Students taking this course may not receive credit for Phscs 127.

**137. Introduction to the Atmosphere and Weather.** (3:3:0) F, W Prerequisite: PhyS 100 or equivalent.
Nonmathematical introduction to characteristics of the atmosphere, emphasizing structure and dynamic behavior, including the environmental impact of man.

**167. Descriptive Acoustics of Music and Speech.** (3:3:0) F, W, Sp Prerequisite: PhyS 100 or equivalent.
Introductory acoustics course, emphasizing physical principles underlying production and perception of music and speech.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: both department chair's and cooperative education coordinator's consent.
For students engaged in the Cooperative Education Program.

**214. Principles of Physics Laboratory.** (1:0:3) F, W, Sp Prerequisite: Phscs 122 and concurrent registration in Phscs 221.

**221. Principles of Physics.** (3:3:0) F, W, Sp Prerequisite: Phscs 121.
Thermal physics, waves, optics, and modern physics.

**222. Principles of Physics.** (3:3:0) F, W, Su Prerequisite: Phscs 121, 122.
Special relativity; quantum physics, applications, and selected topics in contemporary physics.

**281. Principles of Solid State Physics.** (3:3:1) F Prerequisite: Phscs 121, 122.
Introduction to physics of solids, including laboratory experience. For students in science, computer science, technology, and engineering.

**314. (Phscs-Hist 314-Phil 423) History and Philosophy of Science.** (3:3:0) F, Sp Prerequisite: PhyS 100 or instructor's consent.
Scientific explanation, concepts, and models. Philosophical assumptions and criteria for theory selection, as exemplified by historical development of basic ideas in science.

**318. Introduction to Classical Field Theory.** (3:3:0) F, Su Prerequisite: Math 343, 344, 434.
Classical equations of physical fields; applications of Fourier analysis, Fourier transforms, and orthogonal functions.

**321. Mechanics.** (3:3:0) W, Su Prerequisite: Phscs 121, Math 344, 434.
Newton's laws applied to particles and systems of particles, including rigid bodies. Conservation principles and Lagrange's and Hamilton's equations.

**340. Electronics Lab.** (1:1:2) W, Sp Prerequisite: Phscs 122.
Introduction to analog and digital circuits.

**380. Experimental Physics.** (3:2:4) F, Sp Prerequisite: Phscs 214.
Vacuum techniques, machine shop practice, and instrumentation for measurements in various fields of physics and astronomy.

**381. Advanced Experimental Physics.** (3:2:4) W Prerequisite: Phscs 340 or instructor's consent.
Applying microcomputers to experimental observation and measurement of physical phenomena.

**391R. Seminar in Current Physics.** (1:1:0 ea.) F, W on dem.

**431. Thermal Physics.** (3:3:0) F Prerequisite: Phscs 222, Math 344.
Principles of thermodynamics, with introduction to concepts of kinetic theory and statistical mechanics.

**441, 442. Electricity and Magnetism.** (3:3:0 ea.) 441: F, Sp; 442: W, Su Prerequisite: for 441: Phscs 122, Math 344, 434; for 442: Phscs 318, 441.
Classical theory of electricity and magnetism developed from its experimental foundations. Electrostatics, magnetostatics, currents and their associated fields, circuit theory, and Maxwell's equations.

**471. Optics and Electromagnetic Theory.** (3:3:0) W Prerequisite: Phscs 122, 221, 318.
Physical and quantum electromagnetic wave phenomena and modern topics such as coherent interference, holography, lasers, and radiation.

**497R. Introduction to Research.** (1–3:0:Arr. ea.) F, W, Sp, Su

**498R. Senior Thesis.** (1–3:0:Arr. ea.) F, W, Sp, Su
Individually directed research for seniors. Thesis topic must be cleared by faculty member before registration.

**499R. Honors Thesis.** (1–3:0:Arr. ea.) F, W, Sp, Su

## 500-Level Graduate Courses (available to advanced undergraduates)

**513R. Special Topics in Contemporary Physics.** (1–3:3:0 ea.) F, W, Sp, Su on dem. Prerequisite: instructor's consent.
Topics generally related to recent developments in physics.

**517, 518. Mathematical Physics.** (3:3:0 ea.) 517:F; 518:W Prerequisite: Phscs 318, Math 434.
Topics in modern theoretical physics, including applications of matrix and tensor analysis and linear differential and integral operators.

**527, 528. Introduction to Astrophysics.** (3:3:0 ea.) 527:F; 528:W Prerequisite: instructor's consent.
Principles and observational techniques of astrophysics.

**529. Observational Astrophysics.** (3:3:0) On dem. Prerequisite: Phscs 527, 528.
Survey of important areas of current research.

**536, 537. Space and Planetary Physics.** (3:3:0 ea.) F, W on dem. Prerequisite: Phscs 321, 431, 442.
Solar plasmas, planetary atmospheres and interiors, comets, cosmic rays, and space measurement techniques.

**545. Introduction to Plasma Physics.** (3:3:0) F alt. yr. Prerequisite: Phscs 321, 431, 441.
Introduction to plasma physics, including single-particle motion and both fluid and kinetic models of plasma behavior.

**546. Plasma Transport.** (3:3:0) W alt. yr. Prerequisite: Phscs 545.
Transport processes in plasmas applied to space physics, fusion, and laser plasmas.

**551. Quantum Mechanics.** (3:3:0) F, W prerequisite: Phscs 222, 318, or equivalent.
Analytical foundations of quantum mechanics.

**552. Modern Physics.** (3:3:0) F, W Prerequisite: Phscs 551.
Applications of quantum mechanics and special relativity to atomic, molecular, statistical, condensed-matter, and nuclear physics; elementary particles.

**561. Fundamentals of Acoustics.** (3:3:0) W
Generation, transmission, and reception of sound. Vibrating systems, properties of elastic media, mechanical and electrical energy, and radiation.

**562. Acoustical Measurements.** (1–3:0:6) On dem. Prerequisite: Phscs 561 or concurrent registration.
Selected experiments in acoustics.

**565. Acoustics of Music and Speech.** (3:3:0) F alt. yr. Prerequisite: Phscs 561 or instructor's consent.
Sound production and perception, techniques for analysis and synthesis, computer modeling, machine recognition, ensemble effects.

**566. Architectural Acoustics and Noise.** (3:3:0) F alt. yr. Prerequisite: Phscs 561 or instructor's consent.
Computer modeling of enclosures, techniques for measuring noise spectra, room design, noise control.

**571. Laser Physics.** (3:3:0) F Prerequisite: Phscs 222, Math 344, and basic understanding of atomic physics and optics.
Physics of coherent radiation throughout the electromagnetic spectrum, including amplification and laser cavities. Discussion based on quantum mechanical principles, but mathematical treatment classical.

**581. Solid State Physics.** (3:3:0) W alt. yr. Prerequisite: Phscs 222.
Introduction for students in physics, chemistry, geology, and engineering. Phenomena occurring in solids and their related physical concepts.

**591R. Colloquium.** (0.5:1:0 ea.) F, W
Required of all graduate students every semester in residence.

**597R. Introduction to Research.** (0.5:0:1.5 ea.)
Individual experiments in a number of physics areas selected from students' major or minor.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Physics and Astronomy Faculty

Professors

Allred, David D. (1987) BS, Brigham Young U., 1971; MA, PhD, Princeton U., 1973, 1977.
Berrondo, Manuel (1993) BS, U. of Mexico, 1966; PhD, U. of Upsala, 1969.
Dibble, William E. (1961) BS, PhD, California Inst. of Technology, 1954, 1960.
Evenson, William E. (1970) BS, Brigham Young U., 1965; PhD, Iowa State U., 1968.
Harrison, B. Kent (1964) BS, Brigham Young U., 1955; MA, PhD, Princeton U., 1957, 1959.
Hatch, Dorian M. (1968) BS, Utah State U., 1962; MA, PhD, State U. of New York, 1965, 1968.
Knight, Larry V. (1973) BS, MS, Brigham Young U., 1958, 1959; PhD, Stanford U., 1965.
Larson, Everett Gerald (1964) BS, MS, PhD, Massachusetts Inst. of Technology, 1957, 1959, 1964.
Mason, Grant W. (1970) BA, Brigham Young U., 1961; PhD, U. of Utah, 1969.
McNamara, D. Harold (1955) BS, PhD, U. of California, Berkeley, 1947, 1950.
Merrill, John J. (1971) BS, MS, PhD, California Inst. of Technology, 1955, 1956, 1960.
Nelson, H. Mark (1959) BS, MS, Brigham Young U., 1953, 1954; PhD, Harvard U., 1960.
Rasband, S. Neil (1972) BA, PhD, U. of Utah, 1964, 1969.
Stokes, Harold T. (1981) BS, Brigham Young U., 1971; PhD, U. of Utah, 1977.
Strong, William J. (1967) BS, MS, Brigham Young U., 1958, 1959; PhD, Massachusetts Inst. of Technology, 1964.

**Associate Professors**

Christensen, Clark G. (1972) BS, Brigham Young U., 1966; PhD, California Inst. of Technology, 1972.

Hart, Grant W. (1985) BS, Brigham Young U., 1977; PhD, U. of Maryland, 1983.

Jones, Steven E. (1985) BS, Brigham Young U., 1973; PhD, Vanderbilt U., 1978.

Rees, Lawrence B. (1986) BS, Brigham Young U., 1976; MS, PhD, U. of Maryland, 1979, 1983.

Spencer, Ross L. (1984) BS, Brigham Young U., 1974; MS, PhD, U. of Wisconsin, 1976, 1979.

Taylor, Benjamin J. (1980) BA, PhD, U. of California, Berkeley, 1964, 1969.

Turley, R. Steven (1995) BS, Brigham Young U., 1978; PhD, Massachusetts Institute of Technology, 1984.

VanHuele, Jean-François S. (1988) BS, Teacher's Proficiency, PhD, Brussels Free U., Belgium, 1979, 1983, 1987.

**Assistant Professors**

Hess, Brett C. (1994) BS, Brigham Young U., 1982; PhD, Iowa State U., 1988.

Moody, J. Ward (1990) BS, Brigham Young U., 1980; MS, PhD, U. of Michigan, 1984, 1986.

Peatross, Justin B. (1995) BS, Brigham Young U., 1988; PhD, U. of Rochester, 1993.

Sommerfeldt, Scott D. (1995) BM, Brigham Young U., 1983; PhD, Pennsylvania State U., 1989.

**Research Physicist**

Peterson, Bryan G. (1991) BS, PhD, Brigham Young U., 1978, 1983.

**Emeriti**

Ballif, Jae R. (1962) BS, Brigham Young U., 1953; MA, PhD, U. of California, Los Angeles, 1961, 1962.

Barnett, J. Dean (1958) BA, PhD, U. of Utah, 1954, 1959

Decker, Daniel L. (1958) BS, MS, Brigham Young U., 1953, 1955; PhD, U. of Illinois, 1958

Dixon, Dwight R. (1959) BS, Utah State U., 1942; PhD, U. of California, Berkeley, 1955.

Dudley, J. Duane (1956) BS, Brigham Young U., 1952; MA, Rice U., 1953; PhD, U. of Utah, 1959.

Gardner, Andrew L. (1964) BS, Utah State U., 1940; PhD, U. of California, Berkeley, 1955.

Gardner, John H. (1949) BS, Utah State U., 1943; MA, PhD, Harvard U., 1947, 1950.

Hansen, H. Kimball (1963) BS, MS, Brigham Young U., 1957, 1959; PhD, U. of California, Berkeley, 1966.

Hill, Max W. (1958) BA, Brigham Young U., 1954; PhD, U. of California, Berkeley, 1959.

Jones, Douglas E. (1964) BS, MS, PhD, Brigham Young U., 1957, 1959, 1964.

Palmer, E. Paul (1966) BA, PhD, U. of Utah, 1952, 1956.

Vanfleet, Howard B. (1960) BS, Brigham Young U., 1955; PhD, U. of Utah, 1961.

## Polish

See Germanic and Slavic Languages.

# Political Science

David B. Magleby, Chair
745 SWKT, PO Box 25545, (801) 378-3423

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Political Science are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Political science is the study of how people with varying interests, perceptions, and values establish orderly relationships ranging from the nearly anarchic competition between sovereign states to the usually harmonious associations within small communities.

## Career Opportunities

The Political Science Department offers an undergraduate degree in political science for students who are preparing for graduate study in related fields, professional degrees (law or business), or a wide variety of public service occupations, or for liberal arts students who are interested in an undergraduate major that focuses on challenging questions facing modern society.

Students may emphasize the subfields of American government, comparative government, international relations, political philosophy, and public policy. Students wishing to enhance their preparation for public service or business careers may wish to pursue the joint BA-MA public policy degree.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Political Science |
| BA | Political Science Teaching |
| BA-MA | Public Policy |
| Minors | Political Science |
| | Political Science Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## General Information

All political science students should enrich their undergraduate education and enhance their career prospects with an off-campus internship experience. Several high-quality opportunities are available for which credit may be earned toward the political science major or minor.

**Washington Seminar.** Students from any academic discipline spend a semester or term in Washington, D.C., working in government, business, communications, or the arts. Complimenting course work involving readings and briefings on contemporary national issues is part of the curriculum. From 9 to 12 hours of upper-division credit may be earned.

**Utah State Legislature Internship.** During each winter semester students from any academic discipline may work as interns in the Utah State Legislature. Students interested in legislative and public policy processes will particularly benefit from the experience. Complimenting course work on state government can be taken in conjunction with the internship. From 6 to 12 hours of upper-division credit may be earned.

**State and Local Government Internships.** Throughout the year students may intern with city, county, or state governments, as well as the district offices of U.S. senators and representatives (availability of positions may vary). From 3 to 6 hours of upper-division credit may be earned.

**Requirements**

1. Internships should be completed during the junior or senior year. Prior to the internship students should have completed PlSc 110 and 200.
2. Students must have a cumulative grade point average of 2.7 or better (Washington Seminar requires a 3.0) and be in good academic standing. Strong research and writing skills are important qualifications.

3. All internship programs have a strong and complimenting academic component to help students gain the most from their experience. Students completing any of the above internships must be enrolled for credit.

## BA Political Science (45 hours*)

**Major Requirements**

1. At least 27 hours of political science courses must be taken in residency at BYU (BYU Independent Study courses meet this requirement).
2. PlSc 101, 102, and 297 do not count toward the major or minor.
3. Only 6 hours of 298R (simulation course), 299R, or 399R combined may count toward the major.
4. No cooperative education (internship) credit from other universities or colleges will be accepted toward the major.
5. Majors are strongly encouraged to take Phil 105 instead of Engl 115 to complete the GE First-Year Writing requirement.
6. PlSc 200 is prerequisite to all upper-division courses.
7. Complete the following:
   Econ 110.
8. Complete the following required foundation courses before higher-numbered courses (they do not need to be taken in order):
   PlSc 110, 150, 170, 200, 201, 202.
9. Complete two of the following theory courses during the junior year (note prerequisites in course descriptions). Be aware that the courses you select will determine which of the capstone seminars under requirement 11 you may take:
   PlSc 300, 310, 330, 350, 370.
10. Complete 15 additional political science hours at the 200 level or higher (except above theory courses and capstone seminar). Only one 200-level course may be used to meet this requirement.
11. Complete one of the following capstone seminars during the senior year (note prerequisites in course descriptions). Be aware that the seminar you may select is determined by which of the 300-level theory courses you take under requirement 9:
    PlSc 400, 410, 430, 450, 470.
12. All students are strongly encouraged to complete an internship with one of the department's programs, such as the Washington Seminar, Utah State Legislature, or local government. Up to 6 hours of credit earned from an internship may be counted toward the major.
13. Students who plan no formal education beyond the bachelor's degree should take a double major or develop adequate skills through other courses that will enhance their employment opportunities. Consult the college advisement center for suggested majors or skills.
    Students anticipating a professional or graduate program should consult with the department for recommended courses to strengthen qualifications for professional or graduate studies.
14. Students scoring a 5 on the American Government or Comparative Government Advanced Placement Exams may waive 3 elective hours toward the major for each exam. However, this credit cannot be substituted for any of the foundation courses.

*Hours include courses that may fulfill GE or university requirements.

## BA Political Science Teaching (91–97 hours,* including certification hours)

**Major Requirements**

1. At least 27 hours of political science courses must be taken in residency at BYU (BYU Independent Study courses meet this requirement).
2. PlSc 101, 102, and 297 do not count toward the major or minor.
3. Only 6 hours of 298R (simulation course), 299R, or 399R combined may count toward the major.
4. No cooperative education (internship) credit from other universities or colleges will be accepted toward the major.
5. Majors are strongly encouraged to take Phil 105 instead of Engl 115 to complete the GE First Year-Writing requirement.
6. A teaching minor is required for certification (approximately 16–21 hours).
7. PlSc 200 is prerequisite to all upper-division courses.
8. Complete the following:
   Econ 110.
9. Complete the following required foundation courses before higher-numbered courses (they do not need to be taken in order):
   PlSc 110, 150, 170, 200, 201, 202.
10. Complete two of the following theory courses during the junior year (note prerequisites in course descriptions). Be aware that the courses you select will determine which of the capstone seminars under requirement 12 you may take:
    PlSc 300, 310, 330, 350, 370.
11. Complete 15 additional political science hours at the 200 level or higher (except above theory courses and capstone seminar). Only one 200-level course may be used to meet this requirement.
12. Complete one of the following capstone seminars during the senior year (note prerequisites in course descriptions). Be aware that the seminar you may select is determined by which of the 300-level theory courses you take under requirement 10:
    PlSc 400, 410, 430, 450, 470.
13. All students are strongly encouraged to complete an internship with one of the department's programs, such as the Washington Seminar, Utah legislature, or local government. Up to 6 hours of credit earned from an internship may be counted toward the major.
14. Recommended sequences for teaching majors:
    PlSc 110, 310, 410; or PlSc 150, 350, 450.
15. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.
16. Students scoring a 5 on the American Government or Comparative Government Advanced Placement Exam may waive 3 elective hours toward the major for each exam. However, this credit cannot be substituted for any of the required core courses.

*Hours include courses that may fulfill GE or university requirements.

## BA-MA Public Policy (112 hours*)

At catalog press time requirements for the BA-MA in public policy were being restructured. Please see the Political Science Department for details.

### The Discipline

Public policy is the systematic study of how governments go about accomplishing the tasks of providing public services, regulating industrial and commercial activities, promoting public values and concerns, and a host of other actions.

The Public Policy Program is a joint BA-MA program; students who successfully complete the program receive both degrees at the same time; separate degrees are not awarded. A master's degree is widely considered to be the entry-level degree for a career in public policy. The joint program streamlines the requirements so that both degrees can be earned within five years.

### Career Opportunities

The program helps students develop a wide variety of skills, including the ability to critically assess the strengths and weaknesses of policy options and to evaluate arguments and normative principles concerning what governments should and should not do. One of the most important elements of public policy study is participation in an internship with a congressional office, state legislature, government agency, research organization, interest group, or some other office related to the student's policy interests.

### Major Requirements

1. Formally apply for this program through the Department of Political Science and the Office of Graduate Studies.
2. Before being accepted into the program, complete the following with satisfactory grades:
   Econ 110.
   PlSc 110, 200, 201, 202.
   And select one course from the following:
   PlSc 330, 333.
3. Maintain a 3.0 GPA for all courses in the major.
4. Complete an internship and capstone seminar.
5. Complete the following:
   PlSc 313, 315, 331, 334, 599R (5 hours), 693R.
   Soc 303R.
6. Select one course from the following:
   Econ 275, 475.
   ManEc 475.
7. Select one course from the following:
   Econ 280, 380.
8. Select one course from the following:
   Econ 378.
   PlSc 328.
   Soc 300.
9. Select one course from the following:
   Econ 381.
   ManEc 476.
   PlSc 372, 530.
10. Select one course from the following:
    PlSc 532.
    PMgt 689.
11. Select one course from the following:
    PlSc 533.
    PMgt 632.
12. Select 24 hours approved by the director of the Public Policy Program.
13. To graduate with a concurrent BA-MA, complete an additional 30 hours for a total of 158 hours.
14. A total of 21 hours in the program must come from 500-level or above courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor Political Science (21 hours*)

1. Complete the following:
   PlSc 110, 150, 170, 201, 202.
2. Select two additional upper-division courses.
3. Neither PlSc 101 nor 297 can be counted toward the minor.

*Hours include courses that may fulfill GE or university requirements.

## Minor Political Science Teaching (21 hours*)

1. Complete the following:
   PlSc 110, 150, 170, 201, 202.
2. Select two additional upper-division courses.
3. Neither PlSc 101 nor 297 can be counted toward the minor.

*Hours include courses that may fulfill GE or university requirements.

## Political Science (PlSc)

### Undergraduate Courses

**101. Freshman Seminar.** (1:1:0)
Academic expectations in the major and in higher education; review of campus resources; meetings with faculty.

**102. Review of U.S. Government for Washington Seminar Students.** (1:1:0)
Review of the essentials of American national government for nonmajors participating in the Washington Seminar. May not count toward a political science major or minor.

**110. American Government and Politics.** (3:3:0) Honors and Independent Study also.
Origin and development of federal Constitution; national, state, and local governments and politics.

**150. Comparative Government and Politics.** (3:3:0) Honors also.
Patterns of European, Asian, Latin American, and other political systems.

**170. Introduction to International Politics.** (3:3:0) Honors also.
Basic forces, practices, institutions, and foreign policies of major powers; problem areas in international politics.

**200. Political Inquiry.** (3:2:1)
Methodology of political science, including theory and techniques of qualitative and quantitative research design. Prerequisite to all upper-division courses.

**201. Western Political Heritage 1.** (3:3:0) Honors also.
Western civilization from Greek antiquity to Renaissance, primarily from perspective of political philosophy and scriptures; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**202. Western Political Heritage 2.** (3:3:0) Honors also. Prerequisite: PlSc 201.
Western civilization from Renaissance to present, primarily from perspective of political philosophy; exploring fundamental questions in human experience; examining formative events in history; understanding value of important texts.

**230. Political Participation.** (3:3:0)
Influencing public policy; legal mechanisms to promote or halt government action. Where and how to become involved.

**297. Washington Seminar Preparation.** (1:1:0)
Preparatory seminar for students who will be participating in the Washington Seminar.

**298R. Political Simulation.** (1–2:2:0 ea.)
Utah Intercollegiate Assembly or Model United Nations.

**299R. Cooperative Education: Public Service.** (1–3:1:3 ea.) Prerequisite: by application.
On-the-job experience for lower-division credit.

**300. Contemporary Political Theory.** (3:3:0) Prerequisite: PlSc 201, 202; or Phil 201, 202.
History of political science, including the moral and ethical dimensions of politics.

**301. The Logic of Political Inquiry.** (3:3:0)
Comparative analysis of the logic of scientific and normative inquiry.

**305. Advanced American Heritage.** (3:3:0) Prerequisite: AHtg 100.
Intended especially for prospective American Heritage teaching assistants. Founding and historical development of the American order, including moral, constitutional, and economic aspects.

**308. Theories of Human Freedom.** (3:3:0)
Scope of human freedom at the metaphysical, individual, social, and political levels.

**309R. Topics in Political Philosophy.** (3:3:0 ea.)

**310. Theories of American Politics.** (3:3:0) Prerequisite: PlSc 110.
Development of political science as a discipline in America; fundamental American political thought; and major theories and approaches used to explain American politics.

**311. State and Local Government and Politics.** (3:3:0) Independent Study also. Prerequisite: PlSc 110.
Relation of state and national governments, forms of state governments and politics, types of municipal governments and their operation.

**312. Urban Government.** (3:3:0)
Growth, development, dynamics, and problems.

**313. Public Power of Interest Groups.** (3:3:0)
Group theory and pluralism; private influence of public decisions, private performance, and enforcement of public functions; pressure group tactics; organization and function of interest groups.

**314. The United States Presidency.** (3:3:0)
Presidential power in the United States, focusing on major roles of the American presidency.

**315. Congress and the Legislative Process.** (3:3:0) Prerequisite: PlSc 110.
Election process; structure, organization, and procedures of legislative bodies; relations with pressure groups, the president, and executive branch.

**316. American Political Parties.** (3:3:0)
Electoral and policy-making roles of American political parties today and their future in American politics.

**317. Public Opinion and Voting Behavior.** (3:3:0)
Relationship between attitudes, opinion, and voting behavior in American politics and institutions.

**318. Campaign Management.** (1–3:3:0)
Political campaigns from perspective of candidates, media, public, and the political system, as well as from broader perspective of democratic theory.

**319R. Topics in American Government and Politics.** (1–3:3:0 ea.)

**320. American Politics Through Literature.** (3:3:0)
American politics through the novel and other literary works. Developing political concepts and themes that come from significant political novels.

**321. The Media in American Politics.** (3:3:0)
News media's role in processes of American politics, including electoral process, legislative process, and public policy-making.

**322. Principles and Issues of the Founding of the American Republic.** (3:3:0)
Basic principles and issues underlying the founding of the American republic.

**328. Advanced Methods of Political Analysis.** (3:3:0) Prerequisite: PlSc 200.
Quantitative techniques in political research.

**329R. Topics in Political Behavior.** (3:3:0 ea.)

**330. Theories of Public Policy.** (3:3:0) Independent Study also. Prerequisite: Econ 110, PlSc 110, 170, 200.
Major theories used in assessing public policies, including policy formation, interaction of politics and economics, institutions of policy making, and policy.

**331. Public Policy Process.** (3:3:0)
Needs and demands for public action on policy issues; organization of public support; processes and problems of decision making in public policy.

**333. Politics of Bureaucracy.** (3:3:0)
Theory and nature of bureaucracy; sources of power; political executives; staffs and agency personnel; conflicts with elected officials; public interest and bureaucratic control.

**334. Public Ethics.** (3:3:0)
Sources of values, areas of conflict with government policy, means of value accommodation.

**336. Government and Religion.** (3:3:0)
Christian-Hebraic concepts of state. American experience with church-state relations (First Amendment problems). Policy issues of concern to contemporary religions.

**339R. Topics in Public Policy.** (3:3:0 ea.)

**340. Population and Hunger.** (3:3:0)
Population and food production/ distribution prospects, problems and policy crises. Policy alternatives as seen from the vantage of developed and developing countries. Ethical features of proposed policies.

**342. Politics of Growth and Inequality.** (3:3:0)
Interplay of economic growth and political activities; incidence of economic growth with corresponding social inequality and political repression.

**347. Russian Politics.** (3:3:0)
Politics of the Soviet Union and its successor states; Communist system of government; Gorbachev reforms; disintegration of the USSR and evolution of a new political system.

**348. Korea, Taiwan, and South East Asian Politics.** (3:3:0)
Comparative analysis of political developments in key nations of East and Southeast Asia, including regional relationships.

**349R. Topics in Politics.** (1–3:3:0 ea.)

**350. Theories of Comparative Politics.** (3:3:0) Prerequisite: PlSc 150.
Selected issues of comparative politics such as crisis and discontinuity; development; political infrastructure (e.g., political culture and social structure); political institutions.

**351. British Government and Politics.** (3:3:0)
Examination of the origin and contemporary operation of British political institutions as they relate to British society.

**352. African Politics.** (3:3:0)
Processes of change and development of nation states; African regionalism and relations with other nations; contemporary political issues.

**353. China: Government and Politics.** (3:3:0)
Structure and behavior of politics; contemporary problems. Also for Asian Studies majors.

**354. Japan: Government and Politics.** (3:3:0)
Structure and behavior of politics; contemporary problems. For both political science and Asian Studies majors.

**355. Canadian Government and Politics.** (3:3:0)
Growth and development of Canada and its government; Canada's role in the contemporary world.

**356. French, German, and Italian Government and Politics.** (3:3:0)
Structure and dynamics of politics and current political thought.

**357. Middle East: Political Systems.** (3:3:0)
Social, philosophical, and religious impact on Middle East political institutions in an era of modernization and conflict.

**358. Politics and Society in Latin America.** (3:3:0)
Conceptual and contemporary issues in Latin America's search for political order and economic development.

**359R. Topics in Comparative Politics.** (3:3:0 ea.)

**360. Constitutional Law—American Federal System.** (3:3:0)

**361. Constitutional Law—Rights and Immunities.** (3:3:0)

**364. Jurisprudence.** (3:3:0)
Problem approach to ancient and modern legal philosophies, emphasizing the nature of justice and the relation of law to morality.

**369R. Topics in Law and Justice.** (1–3:3:0 ea.)

**370. Theory of International Relations.** (3:3:0) Prerequisite: PlSc 170, 200.
Most influential traditions of thought in international relations; includes realism, idealism, Marxism, neorealism, complex interdependence, etc.

**371. Foreign Policy Analysis.** (3:3:0) Prerequisite: PlSc 200, 370.
Survey of research regarding multiple levels of foreign policy analysis: individual, group, bureaucratic, societal, economic, systemic.

**372. International Political Economy.** (3:3:0)
Political implications of international trade, investment, and monetary policies within an increasingly interdependent global context; transnationalism.

**373. International Law.** (3:3:0) Prerequisite: PlSc 170.
Nature and function of international law; recognition, succession, jurisdiction rights, and immunities of states; nationality and jurisdiction over nations.

**374. Ethics and International Affairs.** (3:3:0) Prerequisite: PlSc 200.
Ethical considerations in study and practice of international politics. Realism, idealism, and other theories of state behavior subjected to ethical standards.

**375. International Organizations.** (3:3:0)
International institutions; transnational relations; rise of newer political organizations: League of Nations, United Nations, European communities, world religions, multinational corporations, terrorist groups, global regimes.

**376. U.S. Foreign Policy.** (3:3:0)
Formation, implementation, analysis, and criticism of themes in American foreign policy.

**377. National Security Affairs.** (3:3:0)
Foreign policy, defense strategy, and intelligence security affairs.

**379R. Topics in International Relations.** (1–3:3:0 ea.)

**381. International Relations of the Near East.** (3:3:0)
Interregional relations and conflicts including foreign policy, political economics, Arab nationalism, processes of political change, new alliances, and superpower relations in Near East and North Africa.

**382. International Relations of North America.** (3:3:0)
Examination and analysis of factors that affect foreign relations of Canada, U.S., and Mexico, emphasizing trade, security, migration, environment.

**383. Russian Foreign Policy.** (3:3:0)
Patterns, trends, and processes in Soviet foreign policy, 1917 to 1991; emerging foreign policy of post–Soviet Russia and the Commonwealth of Independent States.

**384. U.S.-Japan Relations.** (3:3:0)
Analysis of U.S.-Japan trade and security relationships as applied to careers in government or business. For political science, international relations, Asian Studies, and business majors.

**385. International Relations of Asia.** (3:3:0)
Foreign policies and international relations of China, Japan, and Northeast and Southeast Asia; historical and contemporary review and analysis.

**387. International Political Economy of Illicit Drugs.** (3:3:0)
International illegal drug transactions and the national and international policies designed to control them; consequences of those policies.

**388. Chinese Foreign Policy.** (3:3:0)
Structure and process of foreign policy of the People's Republic of China.

**391. Advanced Seminar on Current Issues.** (3:3:0) Prerequisite: acceptance to Washington Seminar.
For students interning in Washington, D.C. Briefings and lectures from government officials and agencies, as well as directed readings on current issues.

**392. Seminar in State Government.** (3:3:0) Prerequisite: acceptance to Utah state legislature internship.
For students interning with the Utah state legislature. Briefings from state officials and others involved with government.

**393. Readings in National Policy and Institutions.** (3:1:0) Prerequisite: acceptance to the Washington Seminar.
Directed readings focusing on policies and institutions relating to the student's internship experience.

**399R. Cooperative Education Internships.** (1–9:0:0 ea.) Prerequisite: acceptance into program.
Work-study on the international, national, state, and local level.

**400. Capstone Seminar in Political Theory.** (3:3:0) Prerequisite: PlSc 200, 201, 202, 300.
For political science majors only. Seminar in political theory for students in their senior year.

**401. Hume's Political Thought.** (3:3:0)
Political essays of David Hume.

**402. Plato's Political Thought.** (3:3:0)
Plato's dialogues that contain political teachings or implications.

**405. Federalist Papers.** (3:3:0)
The primary defense of the Constitution of the United States, which also constitutes the major commentary on that document.

**406. Tocqueville on America.** (3:3:0)
Alexis de Tocqueville's *Democracy in America*.

**408. Hermeneutics, Deconstruction, and Politics.** (3:3:0)
Critical political theory, including writers such as Hegel, Nietzsche, Heiddegger, Gadamer, Derrida, and Levinas.

**410. Capstone Seminar in American Politics.** (3:3:0) Prerequisite: PlSc 110, 200, 310.
For political science majors only. Seminar in American politics and government for students in their senior year.

**430. Capstone Seminar in Public Policy.** (3:3:0) Prerequisite: PlSc 110, 200, 330.
For political science majors only. Seminar in public policy for students in their senior year.

**450. Capstone Seminar in Comparative Politics.** (3:3:0) Prerequisite: PlSc 150, 200, 350.
For political science majors only. Seminar in comparative politics and government for students in their senior year.

**451. Revolution.** (3:3:0)
Causes and process of political revolution.

**452. Islam and Middle East Politics.** (3:3:0)
Influence of the Islamic religion on politics of the Middle East.

**453. Political Violence and Terrorism.** (3:3:0) Prerequisite: PlSc 200.
Understanding terrorism, insurgency, guerrilla warfare, and other forms of political violence worldwide.

**454. Jerusalem: Past, Present, and Future.** (3:3:0)
Regarded as a key in the process of conflict resolution, Jerusalem in light of its rich political, historical, and religious past, together with its controversial future.

**457. Arab-Palestinian-Israeli Conflict.** (3:3:0)
Emphasizes historical background, current situation, and alternatives leading to conflict resolution.

**470. Capstone Seminar in International Relations.** (3:3:0) Prerequisite: PlSc 170, 200, 370.
For political science majors only. Seminar in international relations and politics for students in their senior year.

**471. Intelligence and National Security.** (3:3:0) Prerequisite: PlSc 200.
Relationship between theory and practice of intelligence and national security of states.

**498R. Directed Individual Study.** (1–3:3:0 ea.) Prerequisite: senior status and department chair's and instructor's consent.

**499. Honors Thesis.** (1–3:Arr.:0 ea.) On dem. Prerequisite: completion of lower-division political science major requirements and two 300-level theory courses.

## 500-Level Graduate Courses (available to advanced undergraduates)

**509R. Advanced Topics in Political Philosophy.** (3:3:0 ea.)
Contemporary issues.

**518. Election Law and Reform of the Political Process.** (3:3:0)
Issues in election law and governmental regulation of elections, campaigns, voting, and political participation.

**519R. Advanced Topics in American Government.** (3:3:0 ea.)

**529R. Advanced Topics in Political Behavior.** (3:3:0 ea.)

**530. Political Economy.** (3:3:0)
Competing theories of the relationship between economics and politics and specific fiscal, monetary, and regulatory policies.

**532. Policy Analysis and Methods 1.** (3:3:0) Prerequisite: college algebra and microeconomics.
Policy analytic methods: program evaluation, management information systems, benefit-cost analysis, and decision theory.

**533. Policy Analysis and Methods 2.** (3:3:0)
Policy analytic methods: surveys and optimization models, statistical analyses, simulation, and social choice models.

**534. Public Sector Productivity.** (3:3:0)
Assessment of government productivity at federal, state, and local levels, including links to budget processes; business management models.

**535. Natural Resources Policy.** (3:3:0)
Processes and politics of public policies related to natural resources. Problems of analysis and evaluation.

**536. Environmental Regulation.** (3:3:0)
Regulatory programs aimed at air and water pollution, hazardous waste, toxic chemicals, and other environmental problems. Alternative regulatory mechanisms and approaches.

**537. Education Policy.** (3:3:0)
Role and public expectations of educational institutions, collection and distribution of financial resources, and productivity and performance assessment.

**538. Urban Policy.** (3:3:0)
Tension between spatial and social policies, and role of institutional actors.

**539R. Advanced Topics in Public Policy.** (3:3:0 ea.)

**544. Public Policy and the Family.** (3:3:0)
Family in political society: specific laws and policies such as divorce, welfare, reproduction, and education.

**545. Social Policy.** (3:3:0)
Justifications for government intervention in families and individual lives, effectiveness of social policies.

**549R. Advanced Topics in Politics.** (3:3:0 ea.)
Politics of growth, inequality, ethnicity, and class conflict.

**558. Political Economics of Development.** (3:3:0)
Uneven distribution of global resources; politics of underdevelopment.

**559R. Advanced Topics in Comparative Government.** (3:3:0 ea.)
Modernization and political change; comparative legislatures, etc.

**569R. Advanced Topics in Law and Justice.** (3:3:0 ea.)

**570. Advanced Theory of International Relations: Core Readings.** (3:3:0)
Theory and research of international relations.

**571. Foreign Policy Analysis.** (3:3:0) Prerequisite: PlSc 200, 370.
Survey of research regarding multiple levels of foreign policy analysis: individual, group, bureaucratic, societal, economic, and systemic.

**572. Continuity and Change in the International Political Economy.** (3:3:0)
Dynamics of change in international political economy in post–Cold War period.

**578R. Advanced Topics in Foreign Policies.** (3:3:0 ea.)
Efforts to secure national security and international stability in a fragile and volatile global environment.

**579R. Advanced Topics in International Relations.** (3:3:0 ea.)
Relevant contemporary issues.

**599R. Cooperative Education: Internship/Field Study.** (1–9:0:0 ea.) Prerequisite: acceptance into program.
Internships for master's candidates.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Political Science Faculty

**Professors**

Bryner, Gary (1982) BA, U. of Utah, 1975; MA, PhD, Cornell U., 1980, 1982.
Daynes, Byron W. (1990) BS, MS, Brigham Young U., 1963, 1965; PhD, U. of Chicago, 1971.
Farnsworth, Lee W. (1964) BA, MA, U. of California, Berkeley, 1957, 1960; PhD, Claremont Graduate School, 1963.
Fry, Earl Howard (1980) BA, MA, Brigham Young U., 1971, 1972; PhD, U. of California, Los Angeles, 1976.
Hollist, W. Ladd (1981) BA, Utah State U., 1971; MA, PhD, U. of Denver, 1973, 1974.
Johnson, G. Wesley (1984) AB, Harvard U., 1957; MA, PhD, Columbia U., 1961, 1967.
Magleby, David Blyth (1981) BA, U. of Utah, 1973; MA, PhD, U. of California, Berkeley, 1974, 1979.
Reynolds, Noel B. (1970) BA, Brigham Young U., 1967; MA, PhD, Harvard U., 1968, 1971.
Sorensen, Alma Don (1970) BS, Utah State U., 1960; MA, PhD, U. of Illinois 1962, 1965.
Taylor, Stanley A. (1968) BS, Brigham Young U., 1959; MA, MALD, PhD, Fletcher School of Law and Diplomacy, 1961, 1962, 1968.
Thomson, Dennis L. (1977) BA, U. of Idaho, 1960; MA, Arizona State U., 1961; PhD, U. of California, Santa Barbara, 1969.
Tullis, F. LaMond (1969) BA, MA, Brigham Young U., 1961, 1964; MPA, PhD, Harvard U., 1965, 1969.
Vetterli, R. Richard (1979) BA, Brigham Young U., 1959; MA, U. of California, Los Angeles, 1961; PhD, U. of California, Riverside, 1972.

**Associate Professors**

Bohn, David Earle (1975) BA, MA, Brigham Young U., 1967, 1969; PhD, Columbia U., 1974.
Bowen, Donna Lee (1978) BA, U. of Utah, 1968; MA, PhD, U. of Chicago, 1972, 1981.
Davis, Richard (1992) BA, MA, Brigham Young U., 1975, 1979; MA, PhD, Syracuse U., 1983, 1986.
Galbraith, David B. (1985) BA, MA, Brigham Young U., 1964, 1965; PhD, Hebrew U. of Jerusalem, 1984.
Hancock, Ralph C. (1987) BA, Brigham Young U., 1977; MA, PhD, Harvard U., 1980, 1983.
Hudson, Valerie M. (1987) BA, Brigham Young U., 1978; MA, PhD, Ohio State U., 1983.
Hyer, Eric (1988) BA, Brigham Young U., 1979; MA, Columbia U., 1981; East Asian Institute Cert., 1982; MPhil, Columbia U., 1983; PhD, Columbia U., 1989.
Snow, R. J. (1990) BA, U. of Utah, 1962; MA, PhD, Northwestern U., 1965, 1966.

**Assistant Professors**

Christensen, Raymond V. (1996) BA, Brigham Young U., 1984; JD, MA, PhD, Harvard U., 1987, 1990, 1992.
Edwards, Paul S. (1995) BA, Brigham Young U., 1986; JD, U. of California, Berkeley, 1991.
Patterson, Kelly D. (1992) BA, MA, Brigham Young U., 1982, 1984; PhD, Columbia U., 1989.
Scruggs, H. E. (1991) BA, JD, Brigham Young U., 1982, 1984.

**Emeriti**

Fletcher, Charles T. (1967) BS, Brigham Young U., 1939.
Hillam, Ray C. (1960) BS, U. of Utah, 1955; MA, George Washington U., 1958; PhD, American U., 1964.
Mabey, Melvin P. (1955) BS, MA, Brigham Young U., 1947, 1953; DPhil, Oxford U., England, 1955.
Midgley, Louis C. (1960) BS, MS, U. of Utah, 1954, 1957; PhD, Brown U., 1964.
Morrell, Edwin B. (1961) BA, Brigham Young U., 1956; MA, PhD, Harvard U., 1959, 1966.
Paxman, Monroe J. (1973) JD, U. of Utah, 1949.
Reeder, Jesse W. (1952) BS, MS, Utah State U., 1934, 1937; PhD, Cornell U., 1952.
Riggs, Robert E. (1975) BA, MA, U. of Arizona, 1952, 1953; PhD, U. of Illinois, 1955; LLB, U. of Arizona, 1963.
Slover, Robert H. (1964) BA, U. of Oklahoma, 1935; MA, PhD, Harvard U., 1948, 1950.
Williams, Carwin C. (1964) BS, Brigham Young U., 1956; MA, Rutgers U., 1958.

# Portuguese

See Spanish and Portuguese.

# Psychology

David V. Stimpson, Chair
1001 SWKT, PO Box 25543, (801) 378-4287

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Psychology are open enrollment.

## The Discipline

The Department of Psychology offers a program designed to (1) provide knowledge about human behavior, (2) develop skills in the application of such principles, and (3) expand the frontiers of knowledge through student-faculty research and scholarly activity.

## Career Opportunities

Psychologists engage in teaching, research, and administration and provide counseling, clinical, or consulting services to individuals and organizations. They are employed in colleges and universities; in public and private schools; in clinics, hospitals, and private practice; in business and industry; and in governmental and private agencies. The study of psychology has particular value for those preparing for parenthood or law and is also of value in supporting other specializations concerned with human behavior.

Most professional positions in psychology require advanced degrees, generally the doctorate, though the bachelor's degree may provide employment in such areas as high school teaching, probation work, junior-level social work, and employment interviewing.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Psychology |
| BS | Psychology Teaching |
| Minors | Psychology |
| | Psychology Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Psychology |
| PhD | Psychology |
| PhD | Clinical Psychology |

For more information, see the 1996–97 Graduate Studies Catalog.

## BS Psychology (46 hours*)

**Major Requirements**

1. At least 22 of the total major credits must be 300-level or above.
2. No D credit is allowed in major courses.
3. At least 23 hours of psychology major credit must be taken in residency at BYU.
4. A maximum of 13 hours may be taken as Independent Study (only 8 of which may count as residence hours).
5. Complete the following:
   Psych 111.
6. Select one of the following options:
   **Either** Psych 301, 302
   **Or** Psych 305.
7. Select three of the following core courses:
   Psych 320, 321, 322, 341, 342, 350.

   **Note:** Only one course may be taken from Psych 320, 321, 322.
8. Select three of the following core courses:
   Psych 361, 370, 375, 381, 382.

   **Note:** Behavioral Neurobiology is a two-semester course (Psych 381 and 382). Students may count only one of these courses toward fulfilling a requirement in this area.

9. Complete the following:
   Psych 378, 490.
10. Complete one of the following cultural diversity courses:
    Anthr 101, 312
    Soc 323.
11. Complete one of the following gender issues courses:
    Hist 384
    Psych 306, 308
    Soc 367.
    WS 222.
12. Complete 6 hours from any psychology course not already taken. No more than 3 hours of 399R, 3 hours of 390R, and 6 hours of 492R, 495R, or 499R will be counted.

**Recommended**

1. To augment the major, courses in other disciplines are recommended that develop skills in analytical thinking, writing, and relevant computer usage. Illustrative courses are:
   Phil 205.
   Engl 315, 316.
   Soc 303R.
2. A minor is not required, but students may select one minor or a combination of courses depending on their educational and vocational objectives. The same courses cannot count for both the major and the minor. If planning to terminate with a bachelor's degree, students should choose courses that broaden their employment opportunities in such areas as secretarial work, recreation, social work, and various branches of business.

*Hours include courses that may fulfill GE or university requirements.

## BS Psychology Teaching (83–89 hours,* including certification hours)

**Major Requirements**

1. A teaching minor is required for certification (approximately 16–21 hours).
2. At least 22 of the major hours must be upper-division.
3. No D credit is allowed in the major.
4. At least 23 hours of psychology major credit must be taken in residency at BYU.
5. A maximum of 13 hours may be taken as Independent Study (only 8 of which may count as residence hours).
6. Complete the following:
   Psych 111, 321, 361, 378.
7. Select one of the following options:
   **Either** Psych 301, 302
   **Or** Psych 305.
8. Select at least one of the following core courses (320 and/or 350 are recommended):
   Psych 320, 341, 342, 350.
9. Select one of the following core courses:
   Psych 370, 375, 381, 382.

   **Note:** Behavioral Neurobiology is a two-semester course (Psych 381 and 382). Students choosing to take Behavioral Neurobiology may complete either semester to receive credit toward a psychology teaching major.
10. Complete the following:
    Psych 490.
11. Complete one of the following cultural diversity courses:
    Anthr 101, 312
    Soc 323.
12. Complete one of the following gender issues courses:
    Hist 384
    Psych 306, 308
    Soc 367.
    WS 222.
13. Complete 6 hours from any psychology course not already taken. No more than 3 hours of 399R, 3 hours of 390R, and 6 hours of 492R, 495R, or 499R will be counted.
14. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## Minor Psychology (15 hours*)

1. Complete the following:
   Psych 111.
2. Complete 12 elective hours from remaining undergraduate and 500-level courses; 9 hours must be 300-level or above. A maximum 6 hours of Independent Study credit may count toward a minor.

   **Note:** Behavioral Neurobiology is a two-semester course (Psych 381 and 382). Students choosing to take Behavioral Neurobiology as part of a psychology minor may complete either course.
3. No D credit is allowed in the minor.

*Hours include courses that may fulfill GE or university requirements.

## Minor Psychology Teaching (21 hours*)

1. Complete the following:
   Psych 111, 321, 361.
2. Complete 12 elective hours of psychology (Psych 240, 320, 350 are recommended.

*Hours include courses that may fulfill GE or university requirements.

## Psychology (Psych)

### Undergraduate Courses

*Designates courses containing valuable content related to the Graduate Record Examination (GRE).

**111. General Psychology.** (3:3:0) Honors and Independent Study also.
Basic course in modern scientific psychology.

**170. Understanding and Improving Your Memory.** (1:0:0) Independent Study only.
Principles of human learning and memory; study skills and methods for improving memory.

**201. Psychology of Music.** (3:3:0)
Application of systematic framework of psychology to analysis of music.

**211R. Frontiers in Psychology.** (3:3:0 ea.)
Contemporary topics not covered in detail in Psych 111.

**220. Human Development: Life Span** (3:3:0)
Interaction of psychological, biological, and social influences on behavior and psychological development through the life span.

**240. Personal and Social Adjustment.** (3:3:0) Independent Study also.
Concepts of adjustment and application of psychological principles for coping with stress and interpersonal, emotional, and psychosexual difficulties.

**270. Improving Mental Skills.** (3:3:0)
Studying, rapid reading, remembering, and problem solving.

***301. Psychological Statistics.** (4:4:0) Independent Study also. Prerequisite: Math 110.
Descriptive analysis and hypothesis testing applied to psychological research data.

***302. Psychological Research Design and Analysis.** (3:3:0) Prerequisite: Psych 301 or equivalent.
Basic principles of designing, conducting, and reporting psychological investigations.

**303. Parenting.** (3:3:0) Independent Study also.
Theories and skills related to quality parent-child relationships.

***305. Psychological Research Methods and Statistics.** (7:6:2) Prerequisite: Math 110.
Principles and practice in conducting psychological investigations, including statistical analyses of research data. Can be substituted for Psych 301 and 302 in the major.

**306. Sex Roles in the Family and Society.** (3:3:0) Independent Study also.
Biological and social contributions to sex role development, sexual self-concept, and complementarity of sex roles.

**308. The Psychology of Women.** (3:3:0)
Overview of current theory and research in psychology of women: biological influences, gender learning, sexuality, health, victimization, work, gender sameness and difference.

***320. Developmental Psychology: Childhood.** (3:3:0) Independent Study also. Prerequisite: Psych 111 or instructor's consent.
Physical, mental, emotional, and social development of the child.

**321. Developmental Psychology: Adolescence.** (3:3:0) Independent Study also.
Development and maturation during adolescence; research methodology.

**322. Developmental Psychology: Adulthood.** (3:3:0) Independent Study also.
Stability and change in psychological, physiological, and interpersonal processes through early, middle, and late adulthood.

**330. Organizational Psychology.** (3:3:0) Independent Study also.
Personal, interactional, and structural aspects of organizations; motivation, decision making, problem-solving communication, leadership, organizational structure, change. Students taking this class should not take OrgB 321.

**336. Personnel Psychology.** (3:2:2) Prerequisite: Psych 111.
Employment interviewing techniques; validation of psychological tests and biographical questionnaires; supervised experience in testing, job analysis, interviewing; exposure to current personnel programs.

**338. Sport Psychology.** (3:3:0)
Application of psychological principles to sporting activities.

***341. Personality.** (3:3:0) Independent Study also.
Individual patterns of behavior, thought, and emotion; personality theories and their associated strategies of research, assessments, and personality change.

***342. Abnormal Psychology.** (3:3:2) Prerequisite: Psych 111.
Dynamics of maladjustment; major psychological disorders and therapeutic procedures. Fieldwork.

**343. Child Psychopathology.** (3:3:0)
Mental disorders of childhood.

**346. Exceptional Children.** (3:3:0) Independent Study also.
Exceptionalities and their psychological significance; gifted, mentally retarded, and physically and emotionally handicapped children.

**348. Clinical Psychology.** (3:3:0)
Personality theories, psychopathology, diagnostic interviewing and testing, psychotherapy techniques; research methods. Not a practicum.

***350. (Psych-Soc) Introduction to Social Psychology.** (3:3:0) Independent Study also.
Conformity and obedience; socialization, norms, roles; attitudes, leadership, group processes.

**353. LDS Perspectives and Psychology.** (3:3:0)
Relationships between theories of psychology and LDS thought.

**354. Psychology of Religion.** (3:3:0)
Classification of religious behavior and experience; source of religious motivation; religion and the growth process.

**357. Interpersonal Growth and Group Processes.** (3:1:4) Independent Study also.
Effective interpersonal relationships and group functioning.

**358. Leadership Development.** (3:2:2) Independent Study also.
Principles and practices of successful leadership: decision making, communications, planning, team building, motivation, and interpersonal skills.

**359. Environmental Psychology.** (3:3:0) Independent Study also. Prerequisite: Psych 111.
Interaction between people and their physical context.

***361. Principles of Learning.** (3:3:0) Prerequisite: Psych 301, 302.
Principles of learning; representative experiments.

***365. Motivation.** (3:3:0)
Determinants of motivation, relationship of motives to emotion, thought, personality, and action. Implications for understanding self and others.

***370. Sensation and Perception.** (3:3:0) Prerequisite: Psych 301, 302.
Sensory basis of perception and principles of perceptual organization.

***375. Cognition.** (3:3:0) Prerequisite: Psych 301, 302.
Perceptual organization; information processing; cognitive development; relationships between sensory analysis, perception, memory, learning, language, and problem solving.

**376. Psychology, Language, and Culture.** (3:3:0)
Principles of linguistics and their implications for cognitive theory; social psychology of language and culture; nonverbal communication.

**378. Psychological Testing.** (3:3:0) Prerequisite: Psych 301.
Construction and validation of standardized psychological tests.

**381. Behavioral Neurobiology 1.** (3:3:0) Prerequisite: Psych 301, 302.
Basic physiological, anatomical, and chemical foundations of psychology.

**382. Behavioral Neurobiology 2.** (3:3:0) Prerequisite: Psych 301, 302.
Continuation of Psych 381.

**386R. Behavioral Neurobiology Laboratory.** (1–3:Arr.:Arr. ea.) Prerequisite: Psych 381, 382, or concurrent registration and instructor's consent.

**390R. Special Topics in Psychology.** (1–3:3:0 ea.) Prerequisite: instructor's consent.

**399R. Cooperative Education.** (1–9:Arr.:Arr. ea.) Prerequisite: Psych 111 and department's consent. Available as credit *only* for participation in Washington Seminar.

**490. Historical and Contemporary Issues in Psychology.** (3:2:1) Prerequisite: senior standing.
Capstone course for psychology; survey, historical development, and comparative analysis of principal issues in contemporary psychology.

**492R. Supervised Instructional or Research Experience.** (1–3:0:0 ea.) Prerequisite: instructor's invitation to register.
Course-related instructional activities or laboratory/field research.

**495R. Independent Readings.** (1–3:Arr.:Arr. ea.) Independent Study also. Prerequisite: instructor's consent.

**499R. Independent Research.** (1–3:0:0 ea.) Prerequisite: instructor's consent.

## 500-Level Graduate Courses (available to advanced undergraduates)

**500R. Research Methods.** (3:3:0 ea.)
Intermediate course for first-year graduate psychology students, focusing on methodological tactics rather than statistical skills.

**501. Data Analysis in Psychological Research 1.** (5:4:2) Prerequisite: Psych 301 or Stat 222; or Stat 221, 223.
Using and interpreting major quantitative methods in psychology; some commonly used computer methods.

**502. Data Analysis in Psychological Research 2.** (5:4:2) Prerequisite: Psych 501 or instructor's consent.
Analysis of variance and covariance, multiple regression, and experimental design; introduction to multivariate methods.

***510. History and Systems of Psychology.** (3:3:0)
Survey of origins and development of modern psychology, including consideration of the schools and theoretical systems.

**511. Philosophy of Science for the Social Sciences.** (3:3:0) Prerequisite: instructor's consent or admission to PhD program.
Issues in philosophy of science as they apply to social sciences, including methods, epistemology, and construction of knowledge.

**520. Advanced Developmental Psychology.** (3:3:0)
Major research in developmental psychology, emphasizing theory, content, and methodology.

**531. Organizational Psychology.** (3:3:0)
Personal and interpersonal aspects of organizational life: goal setting, decision making, problem solving, communication, control, leadership, motivation, and change.

**535. Behavior Modification Techniques.** (3:2:2)
Practical application of behavior modification to academic discipline; emotional target behaviors of individuals and groups.

**540. Personality Theory.** (3:3:0) Prerequisite: Psych 341 and 5 additional hours in psychology.
Contemporary theories of personality developed within the framework of major psychological systems.

**550. Theory and Research in Social Psychology.** (3:3:0) Prerequisite: Psych-Soc 350 or instructor's consent.
Current theories and research on interaction with others.

**552. Applied Social Psychology.** (3:3:0) Prerequisite: Psych-Soc 350; graduate standing or instructor's consent.
Overview of domains in which social psychology theory and research have been applied outside the laboratory.

**555. Group Dynamics.** (3:3:0) Prerequisite: Psych-Soc 350.
Theories and research on small-group processes and mass behavior.

**560. Learning Theory.** (3:3:0) Prerequisite: Psych 361 and 5 additional hours in psychology.
Critical review of current theories and persistent problems.

**565. Motivational Psychology.** (3:3:0) Prerequisite: Psych 365 or equivalent; graduate standing or instructor's consent.
Theoretical, historical, and empirical overview; recent trends and issues; role of animal studies; methodological problems.

**575. Cognitive Processes.** (3:3:0) Prerequisite: Psych 370, 375, or equivalent; graduate standing or instructor's consent.
Major theoretical and empirical developments. Interaction of sensory, perceptual, learning, and thinking processes.

**577. (Psych-CS 535) Human-Computer Interaction.** (3:3:0) Prerequisite: graduate or senior standing.
Human/machine interfaces for hardware/software integration. Psychological principles of computer interfacing. Human engineering, ergonomics, and software design principles for user-friendly applications.

**583. Biological and Health Psychology.** (3:3:0) Prerequisite: Psych 381, 382, or equivalent.
In-depth examination of biological bases of behavior from perspective of health and disease.

**584. Cognitive Neuroscience.** (3:3:0) Prerequisite: graduate standing or instructor's consent.
Critical analysis of neurobiological bases of perception and cognition.

**585. Human Neuropsychology.** (3:3:0) Prerequisite: Psych 381, 382, or instructor's consent.
Critical study of brain-behavior relationships.

**586. Hormones and Behavior.** (3:3:0) Prerequisite: Psych 381, 382.
Neural and endocrine mechanisms underlying behavior.

**587. Sensory and Perceptual Processes.** (3:3:0) Prerequisite: Psych 370, 381, 382; or instructor's consent.
Critical examination of sensory mechanisms and perceptual organization.

**592R. Supervised Teaching Experience.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su
For students receiving supervised teaching experience.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Psychology Faculty

**Professors**

Ballif-Spanvill, Bonnie (1994) BS, PhD, Brigham Young U., 1962, 1966.
Bednar, Richard L. (1982) BS, MS, Brigham Young U., 1961, 1963; PhD, U. of Minnesota, 1968.
Bergin, Allen E. (1972) BS, MS, Brigham Young U., 1956, 1957; PhD, Stanford U., 1960.
Bigler, Erin D. (1990) BS, PhD, Brigham Young U., 1971, 1974.
Brown, Bruce L. (1968) BS, MS, Brigham Young U., 1965, 1968; PhD, McGill U., Canada, 1969.
Bunker, Gary L. (1970) BA, MA, Brigham Young U., 1960, 1961; PhD, U. of California, Berkeley, 1966.

Cundick, Bert P. (1962) BA, MS, U. of Utah, 1957, 1959; PhD, Ohio State U., 1962.
Fleming, Donovan E., Dean (1971) BS, MS, Brigham Young U., 1956, 1957; PhD, Washington State U., 1962.
Furhiman, Addie (1992) BS, Utah State U., 1956; MA, Brigham Young U., 1965; PhD, U. of Minnesota, 1969.
Higbee, Kenneth L. (1970) BS, MS, Brigham Young U., 1965, 1966; PhD, Purdue U., 1970.
Jensen, Larry C. (1965) BS, MS, Brigham Young U., 1960, 1961; PhD, Michigan State U., 1966.
Lambert, Michael J. (1971) BS, MS, PhD, U. of Utah, 1967, 1968, 1971.
Miller, Harold L., Jr. (1975) BS, Arizona State U., 1970; PhD, Harvard U., 1975.
Pedersen, Darhl M. (1962) BS, MS, Brigham Young U., 1957, 1958; PhD, U. of Illinois, 1962.
Robinson, Paul W. (1969) BS, MS, PhD, Utah State U., 1965, 1967, 1973.
Slife, Brent D. (1994) BA, William Jewell Coll., 1976; MS, PhD, Purdue U., 1977, 1981.
Smith, Kay H. (1961) BA, MA, Brigham Young U., 1957, 1958; PhD, Wayne State U., 1962.
Sorenson, David M. (1969) BA, Brigham Young U., 1961; MEd, EdD, Harvard U., 1962, 1970.
Stimpson, David V. (1964) BS, MS, Brigham Young U., 1959, 1960; PhD, U. of California, Berkeley, 1964.
Weight, David G. (1969) BA, MS, Brigham Young U., 1963, 1965; PhD, U. of Washington, 1969.
Williams, Richard N. (1981) BS, Brigham Young U., 1974; MS, PhD, Purdue U., 1978, 1981.
Wood, Larry Eugene (1977) BS, Brigham Young U., 1967; MA, PhD, U. of Iowa, 1970, 1971.

**Associate Professors**

Barlow, Sally H. (1978) BA, MSW, PhD, U. of Utah, 1971, 1973, 1978.
Bloch, George J. (1989) BA, Brandeis U., 1962; MA, Claremont Graduate School, 1965; PhD, Stanford U., 1968.
Burlingame, Gary M. (1983) BS, Andrews U., 1978, MS, PhD, U. of Utah, 1981, 1983.
Maughan, Michael L. (1972) BS, MS, EdD, Utah State U., 1966, 1968, 1970.
Wells, M. Gawain (1972) AS, Dixie Coll., 1964; BS, MS, Brigham Young U., 1967, 1968; PhD, Purdue U., 1972.

**Assistant Professors**

Budge, Harold S. (1960) BS, MS, Utah State U., 1958, 1960; PhD, U. of Utah, 1981.
Clayton, Claudia J. (1991) BS, Brigham Young U., 1970; PhD, U. of Utah, 1976; PhD, Brigham Young U., 1991.
Ehlert, Michael B. (1995) BS, MS, Brigham Young U., 1988, 1990; PhD, U. of New Hampshire, 1995.
Ervin, Gregory (1995) BS, Mercy Coll., 1973; PhD, U. of North Carolina, Chapel Hill, 1981.
Norton, Elizabeth J. (1994) BS, PhD, Brigham Young U., 1972, 1978.
Orme, G. Craig (1983) BS, MS, PhD, Utah State U., 1972, 1974, 1980.
Ridge, Robert D. (1992) BS, Brigham Young U., 1987; PhD, U. of Minnesota, 1992.

**Assistant Clinical Professor**

Nielsen, Stevan L. (1988) BS, Brigham Young U., 1976; PhD, U. of Washington, 1984.

**Emeriti**

Bennion, Robert C. (1961) BA, Brigham Young U., 1956; MA, PhD, Ohio State U., 1959, 1961.
Daniels, Philip B. (1961) BS, MS, Brigham Young U., 1954, 1957; PhD, Harvard U., 1962.
Hardy, Kenneth R. (1954) BA, MA, U. of Utah, 1948, 1949; PhD, U. of Michigan, 1954.
Howell, Robert J. (1952) BA, MA, PhD, U. of Utah, 1948, 1949, 1951.
Payne, I. Reed (1964) BS, Brigham Young U., 1956; MS, PhD, Pennsylvania State U., 1958, 1963.
Robinson, Burton W. (1955) BS, MS, Utah State U., 1951, 1951; PhD, Purdue U., 1954.
Sullivan, Clyde E. (1981) BA, PhD, U. of California, Berkeley, 1948, 1958.

# Recreation Management and Youth Leadership

S. Harold Smith, Chair
279 RB, PO Box 22024, (801) 378-4369

College of Physical Education Advisement Center
205 RB, PO Box 22117, (801) 378-3638

## Admission to Degree Program

All degree programs in the Department of Recreation Management and Youth Leadership are open enrollment.

## The Discipline

Students in the Department of Recreation Management and Youth Leadership may choose an undergraduate emphasis from the following areas: leisure services management, therapeutic recreation, youth agency administration, Boy Scouts of America administration, or youth leadership. Though the five emphasis areas represent diverse and unique approaches, they share the commitment to a service-oriented profession.

Depending upon the particular emphasis, courses prepare students in the areas of leadership skills, systems management, budgeting and finance, program development, facilities design, philosophy of service provision, and current issues in the field. Because of the nature of the profession, course work may not be limited to the Recreation Management and Youth Leadership Department. Course work in the related disciplines of business, behavioral sciences, health sciences, physical education, arts, landscape architecture/design, and travel and tourism may be required.

## Career Opportunities

The curriculum will prepare students to provide professional services designed to meet the recreation, leisure, and youth leadership needs of communities, families, and individuals. Employment may be found in community (municipal/government) recreation agencies; private, commercial, industrial or military recreation programs; youth agencies and Scouting; clinical treatment settings (hospitals) or adaptive programs for people with disabilities; state and national parks; and/or educational settings. Students also may obtain a secondary teaching minor through the department.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Recreation Management and Youth Leadership
Emphases:
- Leisure Services Management
- Therapeutic Recreation
- Youth Agency Administration
- Boy Scouts of America Administration
- Youth Leadership

Minor Recreation Management Teaching

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Recreation Management

For more information see the 1996–97 BYU Graduate Catalog.

## BS Recreation Management and Youth Leadership: Leisure Services Management Emphasis (45 hours*)

#### Major Requirements

1. Complete the following foundation requirements: RMYL 304, 305, 307, 481, 485, 486, 487.
2. Complete 3 hours from the following: RMYL 199R.
3. Complete 9 hours from the following: RMYL 496R.
4. After consulting with a faculty advisor, complete 12 additional hours of supportive courses for the major.

*Hours include courses that may fulfill GE or university requirements.

## BS Recreation Management and Youth Leadership: Therapeutic Recreation Emphasis (54 hours*)

**Major Requirements**

1. Complete the following foundation courses:
   RMYL 304, 305, 307, 481, 485 (section 3), 486, 487.
2. Complete 3 hours from the following:
   RMYL 199R.
3. Complete 9 hours from the following:
   RMYL 496R.
4. Complete the following:
   RMYL 370, 471, 472.
   FamSc 310.
   Psych 342.
   Zool 205, 260.

*Hours include courses that may fulfill GE or university requirements.

## BS Recreation Management and Youth Leadership: Youth Agency Administration Emphasis (59.5 hours*)

**Major Requirements**

1. Complete the following core courses:
   RMYL 305, 487.
2. Complete 4 hours from the following:
   RMYL 299R.
3. Complete 8 hours from the following:
   RMYL 399R.
4. Complete the following:
   RMYL 201, 244, 288, 289, 306, 313R, 332, 371, 373, 375, 376, 388, 400, 403, 492.
   RelC 491.
5. After consulting with a faculty advisor, complete 9 additional hours.

*Hours include courses that may fulfill GE or university requirements.

## BS Recreation Management and Youth Leadership: Boy Scouts of America Administration Emphasis (59.5 hours*)

**Major Requirements**

1. Complete the following core courses:
   RMYL 305, 487.
2. Complete 4 hours from the following:
   RMYL 299R.
3. Complete 8 hours from the following:
   RMYL 399R.
4. Complete the following:
   RMYL 201, 244, 288, 289, 306, 313R, 332, 371, 372, 373, 374, 375, 376, 388, 400, 401R, 403, 492.
   RelC 491.
5. After consulting with a faculty advisor, complete 4 additional hours.

*Hours include courses that may fulfill GE or university requirements.

## BS Recreation Management and Youth Leadership: Youth Leadership Emphasis (59.5 hours*)

**Major Requirements**

1. Complete the following core courses:
   RMYL 305, 487.
2. Complete 4 hours from the following:
   RMYL 299R.
3. Complete 8 hours from the following:
   RMYL 399R.
4. Complete the following:
   RMYL 244, 313R, 332, 371, 373, 375, 400, 403, 492.
   RelC 491.
5. After consulting with a faculty advisor, complete 21 additional hours. Courses listed under major requirements for Youth Agency Administration and Boy Scouts of America Administration are recommended.

*Hours include courses that may fulfill GE or university requirements.

## Minor Recreation Management Teaching (15 hours)

1. Select 8 hours from the following:
   RMYL 304, 481, 485, 495.
2. Attain proficiency in three skill areas (see list in 273 RB).
3. Complete 3 hours of the following:
   RMYL 199R.

## Recreation Management and Youth Leadership (RMYL)

### Undergraduate Courses

**123. Introduction to Outdoor Recreation.** (2:1:3)
Participation in a variety of outdoor activities.

**199R. Cooperative Education Practicum.** (1–3:1:Arr. ea.)
Internship or cooperative education experience evaluated by supervisor and posted on student's transcript. Fee.

**201. Campfire Leadership.** (1:1:0 ea.)
Training in outdoor campfire program planning and staging.

**223R. Outdoor Recreation Skills.** (2:2:4 ea.)
In-depth approach to leadership skills in selected outdoor specialty areas, including fly-fishing, cross-country skiing and winter skills, etc.

**244. Introduction to Youth Leadership** (2:2:2)
Role of youth leadership within the American culture; career opportunities.

**288. Camping Skills.** (2:2:3)
Camping skills for traditional outdoor camping.

**289. Basic Backpacking.** (2:2:4)
Basic backpacking skills.

**299R. Cooperative Education: Leadership Practicum.** (1–4:1:Arr. ea.)
On-the-job experience.

**304. Leisure in Contemporary Society.** (3:3:0)
Problems and opportunities resulting from the leisure era.

**305. Financial Management.** (3:3:0)
Financing recreation management and youth leadership facilities and services.

**306. Youth Agency Administrative Functions.** (3:3:0)
Organizational and operational practices of youth agencies on the administrative level.

**307. Accessible Recreation.** (3:3:0)
Making the recreation/leisure experience accessible to all people. Applications and implications of ADA in recreation/leisure settings.

**315. Social Recreation Leadership.** (3:2:2)
Leadership skills for directing large social groups.

**316. Crafts for Recreation.** (2:1:3)
Administering and developing hobby craft skills for the recreation practitioner.

**323. Basic Rock Climbing.** (2:1:3)
Rock climbing. Free and aid climbing, route selection, safety, rescue, etc.

**332. Community Relationships.** (3:3:0)
Directing community resources toward the needs of youth.

**370. Introduction to Therapeutic Recreation.** (3:3:2) Prerequisite: RMYL 304. Independent Study also.
Agencies, services, programs, and practices related to therapeutic recreation.

**371. Youth Meetings, Activities, and Conferences.** (2:2:2)
Planning and organizing youth and other conferences related to youth agency service.

**372. Cub Scout Leadership.** (2:2:0)
Comprehensive study of the Boy Scouts of America's Cub Scout program from the perspective of the adult volunteer leader and the professional Scouter.

**373. Practicum in Volunteer Leadership.** (2:1:5)
Participation with a youth-serving agency in a volunteer leadership capacity.

**374. Boy Scout Leadership.** (2:2:0)
Comprehensive study of the Boy Scouts of America's Boy Scout program from the perspective of the adult volunteer leader and the professional Scouter.

**375. Executive Dynamics** (3:3:0)
Executive leadership and personal growth practices calculated to meet executive leadership demands.

**376. Agency Teen Programs.** (2:2:0)
Comprehensive study of the teen programs of youth agencies from the perspective of the adult volunteer leader and professional Scout.

**377. Boy Scouts of America (BSA) Programs.** (3:3:0)
Comprehensive study of the Boy Scouts of America's Cub Scout and Boy Scout programs from the perspective of the adult volunteer leader and the professional Scouter.

**380. Outdoor Survival Skills.** (2:2:1)
Training to meet the adversity of primitive living without use of modern equipment and facilities.

**382. High Country Backpacking.** (2:0:4)
Laboratory experience occasionally requiring overnight participation.

**384. Intramural Administration.** (2:2:1)
Administrative procedures for intramural and recreational activities.

**388. Youth Agency Camp Administration.** (2:2:0)
Administrative and program training for planning and conducting youth agency camps.

**399R. Cooperative Education: Internship.** (1–8:1:Arr. ea.)
On-the-job training.

**400. Keys to Leadership.** (3:3:1)
Individualized experience designed to develop leadership skills through structured interaction and application of leadership principles.

**401R. Leadership Certification.** (1:1:1 ea.)
Preparation and certification for selected leadership assignments in agency summer camp and related programs.

**402R. Youth Agencies.** (1-3:3:3)
Administrative experience in positions of staff leadership with selected youth agencies.

**403. Advanced Leadership Skills.** (3:3:0)
Advanced leadership skills used in youth agency programs and administration.

**412. Computer Applications for the Recreation Profession.** (3:3:1)
Orienting the undergraduate student to computer applications in the field of recreation management and youth leadership. For majors only.

**423. Management of Outdoor Systems.** (2:2:Arr.)
Administering camps and outdoor programs; site selection and development; program planning and staffing.

**425. Issues in Outdoor Recreation.** (2:2:0)
Role of outdoor recreation in modern society, including government and nongovernment functions.

**471. Assessment in Therapeutic Recreation.** (3:3:2) Prerequisite: RMYL 199R, 370, Zool 205, 260, Psych 342. Independent Study also.
Patient assessment, treatment plan development, and counseling procedures.

**472. Program Dynamics in Therapeutic Recreation.** (3:3:2) Prerequisite: RMYL 199R, 370, Zool 205, 260, Psych 342.
Modular approach to recreation program development for people with disabilities.

**480. Personal Development Survival.** (1–5:3:0) Prerequisite: instructor's consent.
Living experience course for thirty days in physical and emotional stress situations designed to produce positive interpersonal commitments. Fee.

**481. Program Management.** (3:3:0) Prerequisite: RMYL 199R, 304.
Organizing and administering community programs.

**483. Public Facility Management.** (2:2:0)
Understanding public facility management: stadium, arena, convention center, performing arts center, etc. Box office, security, staging, food service, utilities, housekeeping, crowd management, event coordination, promotion, contracts, television, lighting, sound, press relations, etc.

**485. Management of Recreation Services.** (3:3:0) Prerequisite: RMYL 199R, 304.
Personnel, financing, legal aspects, and city and departmental organization of recreation systems.

**486. Legal Aspects and Risk Management of Leisure Services.** (3:3:0) Prerequisite: RMYL 307, 485.
Legal and risk management issues in recreation/leisure settings.

**487. Research and Evaluation.** (3:3:0) Prerequisite: RMYL 481 or instructor's consent.
Academic and practical training to assess community recreational needs.

**491. Recreation Facility Planning.** (2:2:0)
Developing facilities for public and private recreation programs.

**492. Seminar.** (1:1:0)

**493. Park Planning and Development.** (2:2:0)

**495. Recreation and Community Education.** (2:2:0)
History, organization, funding, leadership, facilities, and value of community education.

**496R. Cooperative Education Internship/Senior Project.** (1–9:1:Arr. ea.) Prerequisite: RMYL 199R, 481, and instructor's consent.
Full-time professional internship.

## Graduate Courses

For graduate courses, see the 1996–97 BYU Graduate Catalog.

## Recreation Management and Youth Leadership Faculty

**Professors**
Gray, Howard R. (1979) BS, MA, Brigham Young U., 1969, 1970; PhD, Pennsylvania State U., 1977.
Naylor, Jay H. (1959) BS, MS, Brigham Young U., 1958, 1959; EdD, U. of Utah, 1973.
Smith, S. Harold (1988) BS, Brigham Young U., 1967; MS, U. of Washington, 1968; PhD, U. of Utah, 1974.
Thorstenson, Clark T. (1969) BS, MRE, Brigham Young U., 1962, 1965; PhD, U. of Utah, 1969.

**Associate Professors**
Catherall, Thomas S. (1971) BS, MA, EdD, Brigham Young U., 1965, 1975, 1980.
Olsen, Burton K. (1965) BS, MS, Brigham Young U., 1963, 1964; PhD, U. of Minnesota, Minneapolis, 1970.

**Associate Professionals**
Holley, Bruce F. (1974) BS, MA, Brigham Young U., 1972, 1974.
Parker, Glen Clair (1981) BS, MS, Brigham Young U., 1974, 1983.

**Assistant Professors**
Hansen, John L. (1966) BS, MRE, Brigham Young U., 1964, 1966.
Nelson, Douglas C. (1976) BS, MRE, Brigham Young U., 1973, 1976; PhD, U. of New Mexico, 1995.
Palmer, Gary K. (1968) BS, MRE, EdD, Brigham Young U., 1966, 1967, 1981.
Widmer, Mark A. (1995) BA, MA, Brigham Young U., 1988, 1990; PhD, U. of Utah, 1993.

**Emeriti**
De Hoyos, Benjamin F. (1961) BS, MA, Brigham Young U., 1956, 1961; PhD, U. of Utah, 1969.
Hafen, William J. (1954) AS, Snow Coll., 1948; BS, Brigham Young U., 1950; MA, Washington State U., 1953; EdD, U. of Utah, 1968.
Heaton, Alma (1953) BS, MS, Utah State U., 1950, 1951.
Heaton, Israel C. (1956) BS, MS, Utah State U., 1940, 1941; ReD, U. of Indiana, 1955.
Packer, Thane J. (1959) BS, Utah State U., 1939; MS, Brigham Young U., 1953; EdD, U. of Utah, 1974.
Skinner, Rulon Dean (1969) AA, Eastern Arizona Coll., 1950; BA, MA, Brigham Young U., 1954, 1971.

# Religious Education

## Ancient Scripture

Stephen E. Robinson, Chair
375-A JSB, PO Box 25689, (801) 378-2067

### Ancient Scripture (RelA)

### Undergraduate Courses

**Asterisk (*) denotes core courses.**

**115. Keys to Scripture Study.** (2:2:0) F, W
A guide to more effective scripture study through consideration of principles, concepts, skills, study aids, and sources common to all of the standard works.

***121, 122. Introduction to the Book of Mormon.** (2:2:0 ea.) F, W, Sp, Su Independent Study also.
Origin and teachings of the Book of Mormon. *Returned missionaries may not register for sections numbered lower than 100.*

***211, 212. The New Testament.** (2:2:0 ea.) F, W, Sp, Su Independent Study also.
RelA 211 deals with the Gospels. RelA 212 deals with the Book of Acts, the Epistles, and the Apocalypse (Revelation).

**301, 302. The Old Testament.** (2:2:0 ea.) F, W, Sp, Su Independent Study also.
Introduction to the structure and teachings of the Old Testament. RelA 301 covers Genesis through 2 Samuel. RelA 302 covers 1 Kings through Malachi.

**304. Writings of Isaiah.** (2:2:0) F, W, Independent Study also.
Historical, prophetic, doctrinal, and literary values of Isaiah, emphasizing latter-day interpretation and application.

**320. History and Contribution of Joseph Smith's Translation of the Bible.** (2:2:0) F, W
Historical significance of Joseph Smith's translation of the Bible, its relationship to the other standard works, and its doctrinal contributions.

**327. The Pearl of Great Price.** (2:2:0) F, W, Sp, Su Independent Study also.
Origin and content of the Pearl of Great Price.

**392R. Special Studies in Religion: Ancient Scripture.** (1:1:0 ea.) F, W, Sp, Su Independent Study also.
Topical studies in religion based on student interest and teacher expertise.

### Jerusalem Center Courses (RelA)

The following courses are offered only at the BYU Jerusalem Center for Near Eastern Studies. Jerusalem Center courses may not be repeated.

**101. Old Testament Survey.** (2:1.5:3) Su
Survey of the Old Testament, integrated with extensive field study in the biblical world; leads to understanding, appreciation, and application of scriptural teachings today.

***111. New Testament Survey of the Gospels.** (2:1.5:3) Su
Survey of the New Testament Gospels integrated with extensive field experience in the biblical world; leads to understanding, appreciation, and application of scriptural teachings today.

***200. New Testament Studies.** (1–4:4:0) F, W
Integrated study of the New Testament and LDS history and prophecy in the biblical world; leads to an understanding, appreciation, and application of scriptural teachings today.

**300. Old Testament Studies.** (2:1.5:3) F, W, Su
Study of the Old Testament integrated with extensive field experiences in the biblical world; leads to an understanding, appreciation, and application of scriptural teachings today.

**303. Old Testament Studies.** (3:3:4) F, W
Study of the Old Testament integrated with extensive field experiences in the biblical world; leads to an understanding, appreciation, and application of scriptural teachings today.

***310. New Testament Studies of the Gospels.** (2:1.5:3) Su
Study of the New Testament Gospels integrated with extensive field experience in the biblical world; leads to an understanding, appreciation, and application of scriptural teachings today.

***311. New Testament Studies of the Gospels.** (3:2:4) F, W,
Study of the New Testament Gospels integrated with extensive field experiences in the biblical world; leads to an understanding, appreciation, and application of scriptural teachings today.

### Graduate Courses

For graduate courses, see the 1995–96 BYU Graduate Catalog.

### Ancient Scripture Faculty

**Professors**
Anderson, Richard L. (1955) BA, MA, Brigham Young U., 1951, 1957; JD, Harvard U., 1954; PhD, U. of California, Berkeley, 1962.
Benson, Reed Amussen (1978) BS, MA, EdD, Brigham Young U., 1953, 1975, 1981.
Brown, S. Kent (1971) BA, U. of California, Berkeley, 1967; PhD, Brown U., 1972.
Condie, Spencer J. (1969) BA, Brigham Young U., 1964; MA, U. of Utah, 1965; PhD, U. of Pittsburgh, 1969.
Griggs, C. Wilfred (1972) BA, MA, Brigham Young U., 1966, 1968; PhD, U. of California, Berkeley, 1978.
Jackson, Kent P. (1980) BA, Brigham Young U., 1974; MA, PhD, U. of Michigan, 1976, 1980.
Ludlow, Victor L. (1972) BA, Brigham Young U., 1968; PhD, Brandeis U., 1979.
McConkie, Joseph F. (1977) BS, MA, EdD, Brigham Young U., 1965, 1968, 1973.
Millet, Robert L., Dean (1983) BS, MS, Brigham Young U., 1971, 1973; PhD, Florida State U., 1983.
Nyman, Monte S., (1966) BS, MS, Utah State U., 1952, 1958; EdD, Brigham Young U., 1965.
Robinson, Stephen E., (1986) BA, Brigham Young U., 1971; PhD, Duke U., 1978.

**Associate Professors**
Draper, Richard D. (1988) BS, Brigham Young U., 1968; MA, Arizona State U., 1974; PhD, Brigham Young U., 1988.
Hoskisson, Paul Y. (1981) BA, MA, Brigham Young U., 1969, 1973; PhD, Brandeis U., 1986.
Johnson, Stanley (1994) BS, MS, EdD, Brigham Young University, 1975, 1979, 1987.
Largey, Dennis L. (1989) BA, Church Coll. of Hawaii, 1972; MA, EdD, Brigham Young U., 1976, 1981.
Madsen, John M. (1987) BS, Washington State U., 1963; MEd, EdD, Brigham Young U., 1966, 1978.
Ogden, Kelly (1984) BA, Weber State Coll., 1971; MEd, Brigham Young U., 1974; MA, Inst. of Holy Land Studies, 1978; PhD, U. of Utah, 1982.
Parker, Todd (1993) BS, Weber State U., 1974; MEd, EdD, Brigham Young U., 1978, 1985.
Parrish, Alan K. (1984) BS, MBA, Utah State U., 1968, 1972; EdD, U. of Southern California, 1981.

Reeve, Rex C., Jr. (1981) BS, MS, EdD, Brigham Young U., 1961, 1962, 1974.

**Assistant Professors**

Ball, Terry B. (1992) BS, MA, PhD, Brigham Young U., 1979, 1990, 1992.

Huntington, Ray L. (1995) BS, MA, PhD, Brigham Young U., 1972, 1977, 1995.

Judd, Daniel (1993) BS, Southern Utah U., 1980; MS, PhD, Brigham Young U., 1985, 1987.

Merrill, Byron (1991) BA, Brigham Young U., 1972; JD, U. of California, Davis, 1975.

Pike, Dana M. (1993) BS, Brigham Young U., 1978; PhD, U. of Pennsylvania, 1990.

Seely, David R. (1987) BA, MA, Brigham Young U., 1981, 1982; AM, PhD, U. of Michigan, 1985, 1990.

Skinner, Andrew C. (1992) BS, U. of Colorado, 1975; BA, Iliff Sch. of Theology, 1978; MTh, Harvard U., 1980; PhD, U. of Denver, 1986.

Sommerfeldt, Vern (1991) BA, MA, PhD, Brigham Young U., 1972, 1980, 1988.

Thomas, M. Catherine (1994) BA, Brigham Young U.—Hawaii, 1969; PhD, Brigham Young U., 1989.

Williams, Clyde (1991) BS, MEd, EdD, Brigham Young U., 1974, 1978, 1989.

Wilson, Keith J. (1995) BA, MA, Brigham Young U., 1976, 1981; PhD, U. of Utah, 1995.

**Emeriti**

Bankhead, Reid E. (1948) BS, U. of Utah, 1947; MT, Brigham Young U., 1949.

Felt, Paul E. (1957) BA, Brigham Young U., 1942; MS, U. of Utah, 1954.

Harris, James R. (1966) BS, MA, EdD, Brigham Young U., 1952, 1958, 1965.

Horton, George A., Jr. (1983) BS, MS, Brigham Young U., 1953, 1957; EdD, U. of California, Los Angeles, 1969.

Matthews, Robert J., (1955) BS, MS, PhD, Brigham Young U., 1955, 1960, 1968.

Meservy, Keith H. (1958) BA, Brigham Young U., 1951; MA, Johns Hopkins U., 1966.

Nibley, Hugh W. (1946) BA, U. of California, Los Angeles, 1934; PhD, U. of California, Berkeley, 1938.

Parsons, Robert Ernest (1964) BS, MS, Brigham Young U., 1954, 1957.

Patch, Robert C. (1949) BA, U. of New Mexico, 1945; MA, PhD, Brigham Young U., 1949, 1964.

Rasmussen, Ellis T. (1951) BS, MA, PhD, Brigham Young U., 1942, 1951, 1967.

Shields, L. Grant (1970) BA, MRE, DRE, Brigham Young U., 1949, 1968, 1976.

Skousen, W. Cleon (1967) JD, George Washington U., 1940.

Tate, Charles D. (1960) BS, MS, Utah State U., 1954, 1958; PhD, U. of Colorado, 1966.

Taylor, Hal L. (1969) BS, MS, Brigham Young U., 1951, 1962.

Turner, Rodney (1956) BA, MA, Brigham Young U., 1949, 1953; EdD, U. of Southern California, 1960.

# Church History and Doctrine

Richard O. Cowan, Chair
375-B JSB, PO Box 25690, (801) 378-3691

H. Dean Garrett, Associate Chair
316-C JSB, PO Box 25604, (801) 378-3293

## Church History and Doctrine (RelC)

### Undergraduate Courses

**Asterisk (*) denotes core courses.**

**100. Introduction to Mormonism.** (2:2:0) F, W Only for students who are not LDS.

Culture, practices, and doctrines of The Church of Jesus Christ of Latter-day Saints; religion at BYU.

**130. Sharing the Gospel.** (2:2:0) F, W, Sp, Su Independent Study also. This class may not be *taken* or *retaken* by returned missionaries.

Recommended for all prospective missionaries. Focuses upon the purpose, skills, and doctrines of missionary work and prepares prospective missionaries for a more meaningful MTC and mission experience.

**234. LDS Marriage and Family.** (2:2:0) F, W, Sp, Su

Courtship, marriage, and family relationships from an LDS perspective.

**261. Introduction to LDS Family History (Genealogy).** (2:2:0) F, W, Sp, Su Independent Study also.

Introduction to family history program of Church; emphasizes identifying ancestors in the first few generations for whom temple ordinances have not been completed; use of Church resources to simplify temple and family history activities.

**262. LDS Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents created by the LDS Church to identify ancestors and submit their names for temple ordinances.

**263. North American Family History.** (1:1:0) Prerequisite: RelC 261.

Using records from Canada and the United States to identify ancestors and submit their names for temple ordinances.

**264. British Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents from the British Isles to identify ancestors and submit their names for temple ordinances.

**265. Scandinavian Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents from the countries of Scandinavia to identify ancestors and submit their names for temple ordinances.

**266. Germanic/Slavic Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents from the countries of central and eastern Europe to identify ancestors and submit their names for temple ordinances.

**267. Hispanic Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents from the countries of Central and South America and Carribean countries, Spanish U.S., and Spain to identify ancestors.

**268. Southern European Family History.** (1:1:0) Prerequisite: RelC 261.

Using documents from the countries of Portugal, Spain, Andorra, France, and Italy to identify ancestors.

***324, 325. The Doctrine and Covenants.** (2:2:0 ea.) F, W, Sp, Su Independent Study also.
Origin, content, and teachings of the Doctrine and Covenants. RelC 324 discusses Sections 1 through 70. RelC 325 considers Sections 71 through 138.

**333. Teachings of the Living Prophets.** (2:2:0) F, W, Sp, Su Independent Study also.
Calling and function of the living prophets; an emphasis on their teachings through recent conference reports.

**341. Latter-day Saint History from 1805 to 1844.** (2:2:0) F, W, Sp, Su Independent Study also.
Church history and doctrine from the birth of Joseph Smith to his martyrdom.

**342. Latter-day Saint History from 1844 to the Present.** (2:2:0) F, W, Sp, Su Independent Study also.
Church history and doctrine from the martyrdom of Joseph Smith to the present.

**344. The International Church.** (2:2:0) F, W Independent Study also.
History of the Church from 1830 to the present in Britain, Europe, the Pacific, Asia, Latin America, Africa, the Near East, and other areas.

**350. The LDS Church in a World Setting.** (2:2:0) F, W Study Abroad only.
Christian foundations, restoration, and historical development of the Church in selected regions of the world. Focuses on specific countries as part of Study Abroad Program.

**351. The Gospel and the World's Religions.** (3:3:0) F, W, Sp, Su
Survey of non-Christian religions and comparisons with LDS doctrine and practice.

**352. The Gospel and Christian History.** (2:2:0) F, W, Sp or Su.
Historical Christianity from its inception to the present.

**353. American Christianity and the Rise of the LDS Church.** (2:2:0) F, W, Sp or Su
Historical roots and beliefs of the major Christian faiths of America, with special emphasis on the Restoration.

**355. Judaism and the Gospel.** (1:2:0) F, W, Sp or Su
History, doctrine, and practices of Judaism in light of the restored gospel.

**356. Islam and the Gospel.** (1:2:0) F, W, Sp, or Su
History, doctrine, and practices of Islam in light of the restored gospel.

**370. Introduction to Teaching Seminary.** (2:2:0) F, W, Sp, Su
Philosophy, objectives, subject-matter areas, and related problems associated with religious education at the secondary level.

**393R. Special Studies in Religion: Church History and Doctrine.** (1:1:0 ea.) F, W, Sp, Su Independent Study also.
Topical studies in religion based on student interest and teacher expertise.

**431. Doctrines of the Gospel.** (2:2:0) F, W, Sp, Su Independent Study also.
Doctrines of The Church of Jesus Christ of Latter-day Saints as taught in the scriptures and by latter-day prophets. Intended as a capstone experience to integrate doctrines and principles of the plan of salvation.

**471. Methods of Teaching Seminary.** (2:2:0) F, W, Sp Su
Prerequisite: instructor's consent.
Prospective seminary teachers only.

**472. Teaching the Developmentally Disabled.** (2:2:0)
Prerequisite: instructor's consent.
Training prospective Church Educational System teachers to effectively teach religious education to youth who are developmentally disabled.

**473. Seminary Student Teaching.** (2:0:0) F, W Prerequisite: RelC 471.
Evaluation of prospective seminary teachers.

**475. Seminary Teaching Seminar.** (1–2:2:0) Sp
Topics pertinent to success of newly appointed seminary teachers preparatory to fall teaching.

**491, 492. Senior Seminar: The Gospel in Academic Disciplines.** (1:1:0 ea.) F, W
RelC 491 and 492 may be taken concurrently or sequentially depending on college policy. See individual college for registration instructions. Generally taught by faculty from disciplines outside Religious Education.

## Graduate Courses

For graduate courses, see the 1995–96 BYU Graduate Catalog.

## Church History and Doctrine Faculty

**Professors**

Black, Susan Easton (1978) BA, Brigham Young U., 1966; MA, California State Coll., San Bernardino, 1975; EdD, Brigham Young U., 1978.
Cannon, Donald Q., Associate Dean (1973) BA, MA, U. of Utah, 1961, 1962; PhD, Clark U., 1967.
Cowan, Richard O. (1961) BA, Occidental Coll., 1958; MA, PhD, Stanford U., 1959, 1961.
Dahl, Larry E., Associate Dean (1978) BEd, U. of Alberta, Canada, 1961; MRL, EdD, Brigham Young U., 1968, 1971.
Esplin, Ronald K. (1980) BA, U. of Utah, 1969; MA, U. of Virginia, 1970; PhD, Brigham Young U., 1981.
Hartshorn, Leon R. (1965) BS, MS, Brigham Young U., 1956, 1959; EdD, Stanford U., 1965.
Johnson, Clark V. (1979) BA, Utah State U., 1963; MA, PhD, Brigham Young U., 1969, 1977.
Perkins, Keith W. (1975) BA, Arizona State U., 1959; MA, PhD, Brigham Young U., 1970, 1974.
Porter, Larry C. (1970) BS, Utah State U., 1957; MA, PhD, Brigham Young U., 1966, 1971.

**Senior Research Historian**

Jessee, Dean C. (1980) BA, MA, Brigham Young U., 1956, 1959.

**Associate Professors**

Brinley, Douglas E. (1990) BS, MS, Utah State U., 1964, 1966; PhD, Brigham Young U., 1975.
Caldwell, C. Max (1978) BS, U. of Utah, 1958; MA, Brigham Young U., 1971.
Choi, Dong Sull (1987) BA, Korea U.; MA, PhD, Brigham Young U., 1984, 1990.
Flake, Lawrence R. (1993) BS, MA, PhD, Brigham Young U., 1965, 1969, 1970.
Garrett, H. Dean (1985) BS, MS, Utah State U., 1967, 1969; EdD, Brigham Young U., 1974.
Keller, Roger R. (1989) BA, U. of Colorado, 1968; MDiv, Princeton Theological Seminary, 1971; PhD, Duke U., 1975.
LeBaron, E. Dale (1986) BS, MA, PhD, Brigham Young U., 1963, 1965, 1972.
Peterson, Paul H. (1984) BA, MA, PhD, Brigham Young U., 1966, 1972, 1981.
Top, Brent (1987) BA, MEd, PhD, Brigham Young U., 1976, 1980, 1984.
Van Orden, Bruce A. (1986) BA, MA, PhD, Brigham Young U., 1970, 1975, 1986.

Wright, Dennis A. (1995) BS, U. of Idaho, 1968; MS, Brigham Young U., 1973; PhD, Arizona State U., 1978.
Wright, Raymond S., III (1990) BA, MA, PhD, U. of Utah, 1967, 1973, 1977.

**Research Historian**
Jensen, Richard L. (1980) BA, Utah State U., 1968; MA, Ohio State U., 1972.

**Assistant Professors**
Boone, David F. (1993) BA, MA, EdD, Brigham Young U., 1978, 1981, 1992.
Bott, Randy L. (1993) BS, MEd, Utah State U., 1970, 1974; EdD, Brigham Young U., 1988.
Dorius, Guy L. (1994) BS, U. of Utah, 1984; MEd, PhD, Brigham Young U., 1986, 1994.
Garr, Arnold (1991) BA, Weber State Coll., 1969; MA, Utah State U., 1974; PhD, Brigham Young U., 1986.
Holzapfel, Richard Neitzel (1993) BS, Brigham Young U., 1980; MA, PhD, U. of California, Irvine, 1990, 1993.
Ostler, Craig J. (1995) BA, MEd, PhD, Brigham Young U., 1977, 1979, 1995.
Perkins, Jerome M. (1992) BA, MEd, PhD, Brigham Young U., 1971, 1977, 1989.
Sperry, Kip (1991) BS, MLS, Brigham Young U., 1970, 1974.
Toronto, James A. (1992) BA, MEd, Brigham Young U., 1975, 1980; MA, PhD, Harvard U., 1984, 1992.

**Instructor**
Baugh, Alexander L. (1995) BS, Utah State U., 1981; MA, Brigham Young U., 1986.

**Emeriti**
Andersen, Wilson Kay (1962) BS, U. of Utah, 1949; MEd, Brigham Young U., 1957.
Backman, Milton V., Jr. (1960) BS, MA, U. of Utah, 1954, 1955; PhD, U. of Pennsylvania, 1959.
Barrett, Ivan J. (1953) BS, Utah State U., 1938; MS, Brigham Young U., 1947.
Barron, Howard H. (1953) BS, MS, Utah State U., 1943, 1950; EdD, U. of Utah, 1953.
Berrett, Lamar C. (1963) BS, U. of Utah, 1952; MS, EdD, Brigham Young U., 1960, 1963.
Bowen, Walter D. (1964) BS, MS, EdD, Brigham Young U., 1957, 1958, 1965.
Burton, Alma P. (1959) BS, Utah State U., 1948; MS, Brigham Young U., 1950; EdD, U. of Utah, 1957.
Durrant, George D. (1989) BA, MA, EdD, Brigham Young U., 1957, 1964, 1971.
Fugal, John P. (1966) BS, MS, DRE, Brigham Young U., 1948, 1959, 1967.
Garrard, Lamar E. (1967) BS, U. of Idaho, 1949; BS, MS, PhD, Brigham Young U., 1955, 1965, 1968.
Horsley, A. Burt (1956) BA, MA, Brigham Young U., 1945, 1954; PhD, West Welhelms U., Germany, 1956.
Otten, Leaun G. (1972) BS, MEd, Brigham Young U., 1959, 1965.
Pace, George W. (1970) BA, Brigham Young U., 1960; MA, Colorado State U., 1963; DRE, Brigham Young U., 1976.
Palmer, Spencer J. (1968) BA, Brigham Young U., 1952; MA, PhD, U. of California, Berkeley, 1959, 1964.
Petersen, Melvin J. (1964) BS, MS, EdD, Brigham Young U., 1948, 1955, 1964.
Stevenson, J. Grant (1953) AS, Weber Coll., 1952; BA, MA, Brigham Young U., 1953, 1955.

## Russian

See Germanic and Slavic Languages.

## Scandinavian Languages

See Germanic and Slavic Languages.

# Secondary Education

C. Garn Coombs, Chair
110 MCKB, PO Box 25097, (801) 378-4259

College of Education Advisement Center
120 MCKB, PO Box 25096, (801) 378-3426

## Admission to Degree Program

The degree programs in this department carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

The Department of Secondary Education provides a program that certifies secondary teachers for the public schools. In addition to content courses in the field(s) in which they plan to teach, students complete professional education courses and practicum experiences that prepare them to teach in a secondary school setting.

## Career Opportunities

Secondary education teacher.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

**Composite teaching majors only:**

| | |
|---|---|
| BS | Physical Science |
| BS | Social Science |

For help or information on the undergraduate programs, please see your college advisement center.

## General Information

### Teaching Majors, Minors and Composites

Students wishing to certify as secondary teachers select one of the following options in addition to the professional education sequence.

*Option 1a: Teaching Major*
The following subjects *do not require* a teaching minor, although a teaching minor is recommended.

- Chemistry Education (80.5–87.5 hours)
- English Teaching (73–74 hours)
- French Teaching (63–64 hours)
- German Teaching (82–83 hours)
- History Teaching (63–64 hours)
- Mathematics Education (66–67 hours)
- Physical Education: K–12 (85.5 hours)
- Physics Teaching (70–71 hours)
- Theatre Arts Education (71–72 hours)

*Option 1b: Teaching Major and Approved Teaching Minor*
The following subjects *require* an approved teaching minor.

- Dance Education (99–105 hours)
- Geography Teaching (83–92 hours)
- Spanish Teaching (82–104 hours)

*Approved Teaching Minors for Options 1a and 1b Teaching Majors:*

- Anthropology Teaching (16 hours)
- Art Education (23 hours)
- Asian Studies (23–24 hours)(see David M. Kennedy Center for International Studies)
- Biology Teaching (29–30 hours) See Department of Botany and Range Science, Department of Microbiology, or Department of Zoology)
- Chemistry Education(16–18 hours)
- Chinese Teaching (27 hours)
- Computer Science Teaching (19 hours)
- Dance Education (21 hours)
- Driver and Safety Education (16 hours)(see Department of Health Sciences)
- Economics Teaching (18 hours)
- English Teaching (24 hours)
- French Teaching (21 hours)
- Geography Teaching (16 hours)
- Geology Teaching (16 hours)
- German Teaching (22 hours)

Health Education (21 hours)
History Teaching (21 hours)
Japanese Teaching (25 hours)(see Department of Asian and Near Eastern Languages)
Journalism Education (23 hours)(see Department of Communications)
Latin American Studies (24 hours)(see David M. Kennedy Center for International Studies)
Latin Teaching (22 hours)(see Department of Humanities, Classics, and Comparative Literature)
Mathematics Education (25 hours)
Native American Studies (22 hours)(see Department of History)
Near Eastern Studies (23–24 hours)(see David M. Kennedy Center for International Studies)
Physical Education/Coaching (25 hours)
Physics Teaching (24 hours)
Political Science (21 hours)
Psychology Teaching (21 hours)
Recreation Management Teaching (15 hours)
Russian Teaching (31 hours)(see Department of Germanic and Slavic Languages)
Sociology Teaching (20 hours)
Spanish Teaching (21 hours)
Teaching English as a Second Language (TESL)(19 hours)(see Department of Linguistics)
Theatre Arts Education (28 hours)

***Option 2: Restricted Teaching Major and Approved Teaching Minor***

The following subjects *require* an approved teaching minor from a frequently taught academic area.

Chinese Teaching (82–91 hours)(see Department of Asian and Near Eastern Languages)
Economics Teaching (79–85 hours)
Health Sciences: School Health Education (81–87 hours)
Japanese Teaching (87–93 hours)(see Department of Asian and Near Eastern Languages)
Journalism Education (76–82 hours)(see Department of Communications)
Latin Teaching (83–89 hours)(see Department of Humanities, Classics, and Comparative Literature)
Political Science Teaching (91–97 hours)
Psychology Teaching (83–89 hours)
Russian Teaching (92–98 hours)(see Department of Germanic and Slavic Languages)
Sociology Teaching (80–85 hours)

*Approved Teaching Minors for Option 2 Teaching Majors*

Art Education (23 hours)
Biology Teaching (29–30 hours)(see Department of Botany and Range Science, Department of Microbiology, or Department of Zoology)
Chemistry Education (16–18 hours)
Dance Education (21 hours)
Driver and Safety Education (16 hours)(see Department of Health Sciences)
English Teaching (24 hours)
French Teaching (21 hours)
Geography Teaching (16 hours)
German Teaching (22 hours)
History Teaching (21 hours)
Mathematics Education (25 hours)
Physical Education/Coaching (25 hours)
Physics Teaching (24 hours)
Spanish Teaching (21 hours)
Theatre Arts Education (28 hours)

***Option 3: Composite Teaching Major***

A teaching composite enables a student to complete a broader range of content area courses. However, a composite requires at least 46 hours in the teaching major, usually exceeding the 128 hours required for graduation. Teaching composite majors are available in the following subject areas:

Art Education: K–12 (92 hours)
Biology Composite Teaching (94–101 hours )(see Department of Botany and Range Science, Department of Microbiology, or Department of Zoology)
Earth and Space Science Education (85–89 hours)(see Department of Geology)
Family Sciences: Home Economics Education Emphasis (94–95 hours)
Family Sciences: Home Economics Education–Family Life Emphasis (88–90 hours)
Humanities Composite Teaching (76–115 hours)
Music Education: K–12 Choral Emphasis (92 hours)
Music Education: K–12 Instrumental Emphasis (94 hours)
Physical Science Composite Teaching (80.5–82.5 hours)(see Department of Secondary Education)
Social Science Composite Teaching (77–79 hours)(see Department of Secondary Education)
Technology Teacher Education (91–92 hours)

## Professional Education Requirements

Regardless of the option chosen for the content area course work, all students certifying in secondary education must complete the following courses:

1. Complete the following:
   ScEd 276R, 351, 375.
   IS 286.
   RelC 491, 492.
2. Complete 1 hour from the following:
   IS 286.
3. Select one course from the following:
   ScEd 326, Soc 326.
4. Complete 1 hour from the following:
   ScEd 376R.
5. Complete 12 hours from the following:
   ScEd 476R or 496R (interns only).
6. A teaching methods course must be completed within the teaching major or composite. *Biological science, physical science, and social science majors must complete ScEd 377 (3.0 credit hours) as their methods course.* For other majors, refer to the appropriate advisement center or major course listing regarding the methods class.

### Student Teaching Prerequisites

1. *Teaching Major.* Complete at least 24 hours in their teaching major or 36 hours in a composite teaching major. Some departments require more than this minimum before they will clear a candidate for student teaching.
2. *Teaching Within a Minor.* Students requesting to student teach in the area of a teaching minor must (1) complete all minor course work before student teaching and (2) obtain written permission from the Secondary Education Department.
3. *Professional Education Courses.* Complete ScEd 276R, 326 (or Soc 326), 351, 375, 376R (1 hour), IS 286, and the appropriate 377 course with a C or higher.
4. *Application.* Apply for student teaching at the Education Advisement Center (EAC), 120 MCKB, (801) 378-3426.

### Certification Procedures

Students are responsible for keeping the EAC informed of their progress toward certification. If any changes are to be made in the certification program outlined in this catalog, the student

must prepare and circulate the necessary memoranda to obtain approval from both the academic major department and the Department of Secondary Education.

To avoid undue delay certifying, students are urged to arrange for a personal review of their EAC file well in advance of registering for their final semester, because completion of graduation requirements does not necessarily mean that all certification requirements have been met.

Students who have already received a degree in an academic area and wish to obtain a secondary teaching certificate should contact the EAC for specific information.

## Teaching Majors, Teaching Minors, and Composite Teaching Majors

The following is a list of teaching majors and minors offered jointly with the Department of Secondary Education and other academic departments throughout the university. For specific major course requirements, see the department offering the teaching major or minor. For certification requirements, refer to the above information.

### Teaching Majors and Composite Teaching Majors

(Hours listed include courses taken to fill both major and certification requirements.)

Art Education (K–12) (92 hours)
Biology Composite Teaching (94–101 hours)(see Department of Botany and Range Science, Department of Microbiology, or Department of Zoology)
Chemistry Education (80.5–87.5)
Chinese Teaching (82–91 hours)(see Department of Asian and Near Eastern Languages)
Dance Education (99–105 hours)
Earth and Space Science Education (85–89 hours)(see Department of Geology)
Economics Teaching (79–85 hours)
English Teaching (73–74 hours)
Family Sciences: Home Economics Education Emphasis (94–95 hours)
Family Sciences: Home Economics Education—Family Life Emphasis (88–90 hours)
French Teaching (63–64 hours)
Geography Teaching (83–92 hours)
German Teaching (82–83 hours)
Health Sciences: School Health Education Emphasis (81–87 hours)
History Teaching (63–64 hours)
Humanities Composite Teaching (76–115 hours)
Japanese Teaching (87–93 hours)(see Department of Asian and Near Eastern Languages)
Journalism Education (76–82 hours)(see Department of Communications)
Latin Teaching (83–89 hours)(see Department of Humanities, Classics, and Comparative Literature)
Mathematics Education (66–67 hours)
Music Education: K–12 Choral Emphasis (92 hours)
Music Education: K–12 Instrumental Emphasis (94 hours)
Physical Education: Public School Teaching (K-12) Emphasis (85.5 hours)
Physical Science Composite Teaching (80.5–82.5 hours)(see Department of Secondary Education)
Physics Teaching (70–71 hours)
Political Science Teaching (91–97 hours)
Psychology Teaching (83–89 hours)
Russian Teaching (92–98 hours)(see Department of Germanic and Slavic Languages)
Social Science Composite Teaching (77–79 hours)(see Department of Secondary Education)
Sociology Teaching (80–85 hours)
Spanish Teaching (82–104 hours)
Technology Teacher Education (91–92 hours)
Theatre Arts Education (71–72 hours)

### Teaching Minors

Anthropology Teaching (16 hours)
Art Education (23 hours)
Asian Studies (23–24 hours)(see David M. Kennedy Center for International Studies)
Biology Teaching (29–30 hours)(see Department of Botany and Range Science, Department of Microbiology, or Department of Zoology)
Chemistry Education (16–18 hours)
Chinese Teaching (27 hours)(see Department of Asian and Near Eastern Languages)
Computer Science Teaching (19 hours)
Dance Education (21 hours)
Driver Safety Education (16 hours)(see Department of Health Sciences)
Economics Teaching (18 hours)
English Teaching (24 hours)
French Teaching (21 hours)
Geography Teaching (16 hours)
Geology Teaching (16 hours)
German Teaching (22 hours)
Health Education (21 hours)
History Teaching (21 hours)
Japanese Teaching (25 hours)(see Department of Asian and Near Eastern Languages)
Journalism Education (23 hours)(see Department of Communications)
Latin American Studies (24 hours)(see David M. Kennedy Center for International Studies)
Latin Teaching (22 hours)(see Department of Humanities, Classics, and Comparative Literature)
Mathematics Education (25 hours)
Native American Studies (22 hours)(see Department of History)
Near Eastern Studies (23–24 hours)(see David M. Kennedy Center for International Studies)
Physical Education/Coaching (25 hours)
Physics Teaching (24 hours)
Political Science Teaching (21 hours)
Psychology Teaching (21 hours)
Recreation Management Teaching (15 hours)
Russian Teaching (31 hours)(see Department of Germanic and Slavic Languages)
Sociology Teaching (20 hours)
Spanish Teaching (21 hours)
Teaching English as a Second Language (TESL) (19 hours)(See Department of Linguistics)
Theatre Arts Education (28 hours)

## Teaching Composite Majors Offered by Department of Secondary Education

### BS Teaching Physical Science (80.5–82.5 hours,* including certification hours)

#### Major Requirements

1. Complete the following:
   Phscs 105, 106, 107, 108, 127, 137.
   Chem 105, 106, 107, 223, 351, 501.
   Geol 111, 112, 210.
   Phil 423.
   Biol 130.
2. Select one course from the following:
   Geol 286, 351, 370, 480.

3. Complete the Professional Education Component (29–30 hours).

*Hours include courses that may fulfill GE or university requirements.

## BS Teaching Social Science (77–79 hours,* including certification hours)

**Major Requirements**

1. Complete the following:
   Hist 120, 121, 201, 202, 366.

   **Note:** Hist 366 must be completed before ScEd 476R/496R.
2. Select one course from 300-level or above history courses.
3. Complete the following:
   Geog 101, 301.
4. Select one course from the following:
   Geog 302, 331, 341, 346, 401, 405, 450, 455, 460, 465, 470, 471, 480, 485.
5. Complete the following:
   Econ 110 and any 200-level or above economics course.
6. Complete the following:
   PlSc 110.
7. Complete the following:
   **Either** PlSc 150
   **Or** any 300-level or higher political science course.
8. Complete the following:
   Psych 111.
9. Select one course from the following:
   Psych 321, 341, 342, 350, 361, 365.
10. Select one course from the following:
    Soc 111.
    Anthr 101, 110.
11. Complete the Professional Education Component (30–31 hours).

*Hours include courses that may fulfill GE or university requirements.

## Secondary Education (ScEd)

### Undergraduate Courses

**276R. Exploration of Teaching.** (4:Arr.:Arr. ea.) F, W Prerequisite: 30 semester hours or sophomore status.
Field-based, team-taught, initial teaching experience that helps potential teachers identify their strengths and weaknesses in viable educational settings.

**326. Foundations of Teaching.** (2:2:0) F, W, Sp, Su Prerequisite: ScEd 276R.
Knowledge base of teaching, including social, legal, familial, governmental, technological, and empirical impacts upon the teacher's personal and professional life.

**351. Multicultural and Exceptional Education.** (2:2:0) F, W, Sp Su Prerequisite: ScEd 276R.
Promoting constructive interaction both with students of differing economic, social, racial, and ethnic backgrounds and students with exceptional physical and mental conditions. Field trip required.

**375. Theory and Methods of Secondary Education.** (3:3:0) F, W, Sp, Su Prerequisite: ScEd 276R.
Disciplines of education; analysis of educational practice and relationship between theories and research on education and the practice of teaching.

**376R. (ScEd-IS) Secondary Education Field and Specialty Experiences.** (1–2:Arr.:Arr. ea.) F, W, Sp, Su Independent Study also for secondary education majors. Prerequisite: ScEd 276R.
School-related experiences to provide preservice teachers with field or specialty experiences related to specific teaching majors.

**377. Teaching Methods and Instruction.** (3:3:0) F, W Prerequisite: ScEd 276R; concurrent registration in ScEd 476R for social studies students.
Teaching secondary-specific courses in science or social studies; discussions, demonstrations, materials, planning. Students must enroll for section that corresponds with appropriate teaching major.

**476R. Secondary Student Teaching and Reading in the Content Area.** (1–15:Arr.:Arr. ea.) F, W Prerequisite: acceptance to certification program in College of Education; completion of IS 286, ScEd 276R, 326, 351, 375, 376R, appropriate 377; successful completion of at least 24 hours in teaching major or 36 hours in composite teaching major.
Professional education certification experience for all approved secondary teacher candidates. Theory and practice of teaching, specific subject instruction, reading in the content, curriculum development, evaluation, classroom management, professional education. Student teaching is a direct full-day experience. Seminar attendance required. Fee.

**490R. Senior Seminar.** (1–2:2:0 ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**493R. Readings.** (1–2:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.

**496R. Secondary Education Internship.** (1–15: Arr.:Arr. ea.) Prerequisite: ScEd 276R, 326, 351, 375, 376R, IS 286, and completion of 30 teaching major credits.
Full-time, full-year teaching in approved secondary schools. University and secondary school supervision. Contractual agreement. Seminar attendance required. Fee.

### 500-Level Graduate Courses (available to advanced undergraduates)

**514R. Special Topics in Secondary Education.** (1–3:3:3 ea.) On dem.

**Note:** ScEd 514R and 515R are for recertification only. These courses do not count toward preservice secondary certification or graduate degrees.
—Computers in Education
—Curriculum and Instruction
—Fine Arts Education
—Foreign Language Education
—Health and Physical Education
—Language Arts Education
—Mathematics and Computer Science Education
—Middle Education
—Reading in the Content Area
—Science Education
—Social Science Education
—Vocational Education

**515R. Special Topics in Education.** (1–3:Arr.:1 ea.) On dem. These courses must have prior approval of department to count toward graduate degrees.
—Middle Education
—Reading in the Content Area
—Science Education
—Secondary Curriculum
—Secondary Instruction
—Teaching and Learning

**531. Effective Classroom Instruction.** (2:2:Arr.) On dem.
Developing strategies to initiate and maintain effective learning in elementary and secondary classrooms. Expanding teaching perspectives and acquiring observation skills.

**539R. Practicum in Learning and Teaching.** (1–8:Arr.:Arr. ea.) F, W, Sp, Su
Experience in a school setting under direction of college faculty.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Secondary Education Faculty

**Professors**
Clark, D. Cecil (1974) BS, MS, Brigham Young U., 1960, 1961; PhD, Stanford U., 1965.
Coombs, C. Garn (1971) BS, U. of Utah, 1962; MA, DA, Carnegie-Mellon U., 1968, 1975.
Edwards, Clifford H. (1978) BS, MEd, Utah State U., 1962, 1964; EdD, U. of Utah, 1968.
Hansen, J. Merrell (1988) BA, MEd, Brigham Young U., 1964, 1967; PhD, U. of Texas, Austin, 1971.
Wolfgramm, Harold F. (1966) BS, MS, PhD, U. of Utah, 1959, 1960, 1964.

**Associate Professor**
Flinders, Neil J. (1978) BS, MRE, EdD, Brigham Young U., 1960, 1963, 1968.

**Assistant Professors**
Arnoldsen, Larry M. (1969) BS, Brigham Young U., 1960; MA, California State Polytechnic U., 1965; EdD, Brigham Young U., 1985.
Clemmer, Janice White (1980) BS, Brigham Young U., 1964; MA, Dominican Coll. of San Rafael, 1975; MA, U. of San Francisco, 1976; PhD, PhD, U. of Utah, 1979, 1980; JD, Brigham Young U., 1993.
Pinnegar, Stefinee (1992) BS, MA, Brigham Young U., 1978, 1989; PhD, U. of Arizona, 1992.
Wentworth, Nancy M. (1992) BS, MA, PhD, U. of Utah, 1971, 1972, 1992.

**Emeriti**
Alley, Stephen L. (1956) BS, MS, U. of Utah, 1947, 1951; EdD, Harvard U., 1958.
Allred, Wallace E. (1956) BS, MEd, Brigham Young U., 1956, 1957; MS, Oregon State U., 1965; PhD, U. of Utah, 1971.
Baird, Joseph Hugh (1963) BS, MS, U. of Utah, 1954, 1954; EdD, U. of California, Berkeley, 1962.
Belt, W. Dwayne (1961) BA, Brigham Young U., 1952; MA, EdD, Colorado State Coll., 1958, 1961.
Card, Willard R. (1967) BS, U. of Utah, 1957; MA, San Jose State Coll., 1964.
Compton, Lane A. (1953) BS, MS, EdD, U. of Utah, 1944, 1951, 1955.
Henderson, E. Dean (1964) BS, MEd, Utah State U., 1936, 1958.
Rogers, J. Keith (1971) BS, MEd, Brigham Young U., 1959, 1963; PhD, Michigan State U., 1971.
Wilcox, Ray T. (1957) BS, MEd, Brigham Young U., 1951, 1954; EdD, U. of California, Berkeley, 1957.

# School of Social Work

Kyle L. Pehrson, Director
223 KMB, PO Box 24476, (801) 378-4410

Wanda Spaid, Associate Director
214 KMB, PO Box 24470, (801) 378-3289

Shirley Cox, Undergraduate Coordinator
217 KMB, PO Box 24478, (801) 378-4320

W. Eugene Gibbons, Fieldwork Education Director
216 KMB, PO Box 24477, (801) 378-7756

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

The degree programs in the School of Social Work carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

The School of Social Work offers a curriculum that includes both core courses in social work and supportive courses in sociology, psychology, English, and biology. This course work prepares the graduate for immediate employment in numerous human services and social work agencies.

## Career Opportunities

The curriculum of the undergraduate social work program is designed to meet the following program goals:

1. Provide for immediate entry into professional social work practice at the baccalaureate level.
2. Prepare students for graduate professional social work education and postgraduate effort.
3. Prepare students for other graduate professional programs where the principles of social work practice are utilized.
4. Encourage social understanding and personal development in preparation for the responsibilities of family life, church service, community leadership, and basic citizenship.
5. Equip students to move forward objectively and evaluate life realistically, and prepare them to be responsible change agents.
6. Recruit prospective social workers.
7. Strengthen the profession of social work.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under the following undergraduate degree program.

## Undergraduate Programs and Degrees

BS Social Work

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MSW Social Work

For more information see the 1996–97 BYU Graduate Catalog.

## BS Social Work (61–66 hours*)

**Major Requirements**

Accredited by the Council on Social Work Education.

1. Students are accepted as majors only on formal application after completing the published prerequisites (see item 5 below). Deadlines for submitting applications are April 1 and November 15. Several factors are considered because available slots are limited.
2. Students will not be allowed to enroll in SocW 305, 362, 364, 462, 466, 496R unless officially admitted to the program. After formal acceptance as a major, the course sequence is then outlined for the entire program. Without clearance from the

fieldwork educational director, students cannot register for the required field experience (496R).

3. A minimum of 480 hours of social service agency experience is necessary for graduation, with 5 credit hours being issued for each 240 hours of field experience along with a weekly integrating seminar (SocW 496R). Students must remain in the practicum a minimum of four uninterrupted months.
4. No D credit will be accepted for major courses.
5. Complete the following:
   Psych 220.
   SocW 360.
   Zool 205.

   **Note:** At least a B grade in each course is required for application to the program.
6. After acceptance into the program, complete the following:
   SocW 305 (3–5 hours), 362, 364, 365, 366, 462, 466.
7. Select 6 hours from the following:
   SocW 390R, 391R, 463, 464, 550, 595R.
8. Select one special populations course from the following:
   FamSc 317.
   Hist 360, 369, 384, 387.
   Psych 306.
   Soc 323.
   SocW 367, 464.
   WS 222.

   **Note:** SocW 464 satisfies one of the social work electives as well as the special populations requirement.
9. Complete 10 hours of the following:
   SocW 496R.
10. Complete the following supplementary courses:
    Soc 112, 211.
    Engl 315.
11. Select one course from the following:
    Soc 389.
    Psych 342.

**Recommended Courses**

Preparatory courses to be taken during the freshman and sophomore years:
Anthr 101.
Psych 111.
Soc 111.

*Hours include courses that may fulfill GE or university requirements.

## School of Social Work (SocW)

### Undergraduate Courses

**211. Family Interaction.** (3:3:0)
The family system through life cycle stages; intrafamily processes; stresses and challenges; individual and family well-being; family interaction with societal systems.

**305. Introduction to Social Work Research Methods.** (3–5:Arr.:0) Independent Study also. Prerequisite: GE requirement in Mathematics *or* Foreign Language. If foreign language is completed, 5 credit hours of SocW 305 is required; if Stat 221 is completed, 3 credit hours of SocW 305 is required.
Qualitative and quantitative designs. Problem formulation, data collection, statistical analysis, writing, and presenting results.

**360. Introduction to the Field of Social Work.** (3:3:0) Independent Study also.
Social welfare as a social institution; social work as a profession.

**362. Social Service Practice 1.** (4:3:2) Majors only. Prerequisite: SocW-Soc 211; Psych 342 or Soc 389 (may be taken concurrently), SocW 360, Zool 205, Psych 220.
Methods of social work practice within a generalist framework: interventions with individuals. Successful completion of lab required.

**364. Social Service Practice 2.** (4:3:2) Majors only. Prerequisite: SocW 362; Soc 112; Soc 389 or Psych 342 (all may be taken concurrently).
Generalist social work practice; small group process as an agent for change and growth; task groups, therapy groups, and families as targets for change. Successful completion of lab required.

**365. Social Welfare Programs and Services.** (2:2:0) Independent Study also. Prerequisite: SocW 360.
The Social Security Act, federal block grants, federal transfer programs, and the private social welfare sector.

**366. Social Welfare Policy.** (3:3:0) Prerequisite: SocW 360, 365.
Social legislation processes; analysis of social policy and the knowledge available to social workers for involvement in social planning and policy change.

**367. Social Services for the Aging.** (2:2:0) Independent Study also. Prerequisite: instructor's consent.
Process and impact of social services delivery systems on the aged. Does not count as social work elective.

**390R. Special Topics in Social Work.** (3:3:0 ea.) Prerequisite: SocW 362 or instructor's consent.
Course content varies from year to year.

**391R. Special Topics in Contemporary Social Work.** (3:3:0 ea.) Prerequisite: SocW 362 or instructor's consent.
Course content varies from year to year on basis of current need.

**462. Social Service Practice 3.** (4:3:1) Majors only. Prerequisite: SocW 362, 364, and concurrent registration in 460R.
Generalist social work practice; macrolevel practice at organizational and community levels.

**463. Child Welfare Services.** (3:3:0) Prerequisite: SocW 362 or instructor's consent.
Theory and practice of child protection, adoption, foster care, etc.

**464. Intervention with Minority Clients.** (3:3:0) Prerequisite: SocW 360, 362, or instructor's consent.
Specific factors affecting social work intervention with clients of minority status, i.e., ethnicity, culture, race, lifestyle, etc.

**466. Systems Theory and Cultural Diversity.** (3:3:0) Prerequisite: SocW 462 or concurrent registration.
Use of systems theory to integrate human behavior and social environment theory into the generalist social work perspective. Includes Native Americans, Hispanics, African Americans, Asian Americans, Pacific Islanders.

**496R. Senior Field Experience in Social Work.** (1–10:1:9 ea.) Prerequisite: SocW 360, 362, 364, and concurrent registration in 462.
Practical experience in social service agencies; relationship between theoretical concepts and practice.

### 500-Level Graduate Courses (available to advanced undergraduates)

**550. Crisis Intervention.** (3:3:0) F, W
Assessment and intervention in crisis situations with clients.

**560. Substance Abuse and Addiction.** (2:2:0) F
Historical/social overview of substance use in America and its associated problems; overview of each major drug type. Specific issues associated with use and its effects on minorities, women, and children.

**567. Social Services for the Aging.** (2:2:0) Prerequisite: instructor's consent.

Process and impact of social service delivery systems on the aged. Does not count as social work elective.

**595R. Directed Readings.** (1–3:0:0 ea.) Prerequisite: instructor's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Social Work Faculty

**Professors**

Blake, Reed H. (1967) BS, MS, Brigham Young U., 1957, 1959; PhD, Utah State U., 1969.

Gibbons, W. Eugene (1969) BS, MSW, DSW, U. of Utah, 1960, 1963, 1974.

Pehrson, Kyle Lynn (1990) BS, Weber State Coll., 1969; MSW, U. of Utah, 1971; DSW, Catholic U. of America, 1980.

Pillari, Vimala (1995) BS, MA, Madras U., 1971, 1973; DSW, Columbia U., 1978.

Tanner, Elvin R. (1970) BA, Brigham Young U., 1962; MSW, U. of Utah, 1964; PhD, Brigham Young U., 1969.

**Associate Professors**

Cox, Shirley E. (1995) BA, Brigham Young U., 1962; MSW, Howard U., 1967; DSW, U. of Utah, 1986.

Horton, Anne L. (1984) BS, Ohio State U., 1957; MSW, George Williams Coll., 1977; PhD, U. of Wisconsin, 1983.

Matheson, Kenneth W. (1995) BS, Brigham Young U., 1967; MSW, DSW, U. of Utah, 1970, 1976.

Seipel, Michael M. O (1982) BS, MSW, U. of Utah, 1974, 1976; PhD, Cornell U., 1982.

Spaid, Wanda M. (1988) BS, Bethel College, 1969; MSW, U. of Minnesota, 1979; DSW, U. of Utah, 1988.

**Assistant Professors**

Marett, Kevin M. (1992) BS, Brigham Young U., 1982; MSW, U. of Utah, 1985; PhD, Purdue U., 1989.

Norman, Judith L. (1990) BS, Brigham Young U., 1970; BS, Portland State U., 1972; MSW, DSW, U. of Utah, 1978, 1990.

Pearson, Dale F. (1970) BS, MSW, U. of Utah, 1957, 1959; PhD, Brigham Young U., 1981.

Walton, Elaine (1995) BS, MSW, Brigham Young U., 1966, 1986; PhD, U. of Utah, 1991.

**Special Instructors**

Dennis Hansen, Pam Johstoneaux, J. P. Lilly, Wes Matheson, Kayleen Mitchell-Hill, Ramona Morris, Patrick Panos, Bertrand Peterson, Wendy Sheffield, Darlene Uzelac, Ron Wilkinson.

**Emeriti**

Christiansen, John R. (1957) BS, MS, Utah State U., 1949, 1952; PhD, U. of Wisconsin, Madison, 1955.

De Hoyos, Genevieve (1975) BA, Brigham Young U., 1954; MSW, Michigan State U., 1958; PhD, Indiana U., Bloomington, 1967.

Shumway, E. Gene (1975) BS, Brigham Young U., 1951; MSW, U. of Utah, 1953; DSW, Case Western Reserve U., 1969.

Wheeler, Barbara R. (1979) BS, MSW, DSW, U. of Utah, 1970, 1972, 1978.

# Serbo-Croatian

See Germanic and Slavic Languages.

# Sociology

Stephen J. Bahr, Chair
894 SWKT, PO Box 25393, (801) 378-6710

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, PO Box 26797, (801) 378-3541

## Admission to Degree Program

All degree programs in the Department of Sociology are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Sociology explores social life and the social causes and consequences of human behavior. Sociologists study people, their organizations, and their cultures. The organizations include families, tribes, communities, and societies, along with a variety of social, religious, political, and business institutions. The study of culture examines language, beliefs, and knowledge in societies.

## Career Opportunities

Areas of study in sociology include social organization and social psychology. Sociologists may specialize in the study of urban or rural settings. They may be involved in the scientific study of deviance, family, minority groups, communities, or any of a variety of other subject areas. Some sociologists conduct surveys or social experiments. Growing numbers apply sociological knowledge in corrections and penology, education, public relations in industry, and regional and community planning.

One of the primary subject areas in the social sciences, sociology is a broad liberal arts major, rather than a narrow occupational specialty. Students who major in sociology are not trained for a single occupation, but instead they are qualified for a wide range of jobs and graduate programs.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BS | Sociology |
| | Emphasis (optional): Research and Analysis |
| BS | Sociology Teaching |
| Minors | Sociology (General) |
| | Sociology Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MS | Sociology |
| PhD | Sociology |

For more information see the 1996–97 BYU Graduate Catalog.

## BS Sociology (36 hours*)

**Major Requirements**

1. At least 9 hours of sociology major courses must be taken in residence at BYU.
2. Complete the following core courses with at least a C grade: Soc 111, 205, 300, 311, 350, 420, 422.
3. Complete an additional 15 hours of sociology courses with at least a C– grade.

*Hours include courses that may fulfill GE or university requirements.

## BS Sociology: Research and Analysis Emphasis (37 hours*)

We are in a high-tech era. Information gathering, data analysis, and distribution of information are prerequisites for any informed person, group, or corporate entity. This emphasis gives specific hands-on experience with professional researchers in each of these phases of information utilization.

**Major Requirements**

1. At least 9 hours of sociology major courses must be taken in residence at BYU.
2. Complete the following core courses with at least a C grade:
   Soc 111, 205, 300, 311, 350, 420, 422.
3. Complete the following with at least a C– grade:
   Soc 303R (must take twice), 315, 345, 400, 430.

*Hours include courses that may fulfill GE or university requirements.

## BS Sociology Teaching (80–85 hours,* including certification hours)

**Major Requirements**

1. At least 9 hours of sociology major courses must be taken in residence at BYU.
2. A teaching minor is required for certification (approximately 16–21 hours).
3. Complete the following core courses with at least a C grade:
   Soc 111, 205, 300, 311, 350, 420, 422.
4. Complete an additional 12 hours of sociology courses with at least a C– grade.
5. Complete the Professional Education Component (31 hours): see the Secondary Education section of this catalog for certification requirements. (Sociology teaching majors must take Soc 326.)

*Hours include courses that may fulfill GE or university requirements.

## Minor Sociology (General) (15 hours*)

1. Select 9 hours from the following:
   Soc 111, 350, 420, 422.
2. Select 6 hours from any sociology courses not already completed.

*Hours include courses that may fulfill GE or university requirements.

## Minor Sociology Teaching (21 hours*)

1. Complete the following:
   Soc 111, 112, 326.
2. Select one course from the following:
   Soc 350, 420.
3. Select 9 hours from any sociology courses not already completed.

**Recommended Courses**

Soc 323, 367, 380, 383, 389, 422.

*Hours include courses that may fulfill GE or university requirements.

# Sociology (Soc)

## Undergraduate Courses

**111. Introductory Sociology.** (3:3:0) Honors and Independent Study also.
Social group influence; social interaction, processes, organization, and change; family, religion, government, population, culture, race relations.

**112. Current Social Problems.** (3:3:0) Honors and Independent Study also.
Individual deviance (violence, insanity, drugs, sex, crime, etc.) and social disorganization (poverty, race and sex discrimination, divorce, overpopulation, etc.). Conditions, causes, solutions.

**113. Multicultural America.** (3:3:0) F, W, Sp, Su
Diverse cultural heritages in the United States. Cultures studied scientifically will include African American, Hispanic, Asian American, and Native American.

**205. Applied Social Statistics.** (3:3:0) Independent Study also.
Introductory descriptive and inferential statistics; graphing, central tendency, variation, hypothesis testing and parameter estimation, measures of association, correlation, and regression.

**211. Family Interaction.** (3:3:0)
The family system through life cycle stages; intrafamily processes; stresses and challenges; individual and family well-being; family interaction with societal systems.

**300. Methods of Research in Sociology.** (3:3:0) Independent Study also. Prerequisite: Soc 111 or equivalent or instructor's consent.
Tools of social research; survey, experimentation, content analysis, secondary analysis, qualitative research, evaluation research, data processing and analysis, and report writing.

**303R. Introduction to Social Science and Statistical Packages.** (2:2:2 ea.)
Analytical work with social science variables using computer packages such as SAS or SPSSX (see section in current class schedule for designated statistical package). Lab.

**311. Contemporary Sociological Theory.** (3:3:0) Prerequisite: Soc 111.
Introduction and evaluation of current theories of social behavior (why people do what they do).

**315. Sociological Practice.** (3:3:0) Prerequisite: Soc 111, 112.
Solutions to human problems in industry, the community, and personal life.

**323. Racial and Minority-Group Relations.** (3:3:0) Prerequisite: Soc 111.
Social psychological and social structural analysis of racial and ethnic relations; prejudice, discrimination, responses, protests, current issues.

**324. Political Sociology.** (3:3:0) Prerequisite: Soc 111.
Power and decision making in social groups. Theory and research; government and political behaviors; bargaining behavior; terrorism.

**325. Introduction to the Sociology of Religion.** (3:3:0) Prerequisite: Soc 111.
Origin, growth, and organizational development of religious groups; church activity, conversion, secularization, religious change.

**326. Sociology of Education.** (3:3:0)
Social origins of goals and curricula; theories of change and control; the nature of achievement in education.

**327. Sociology of the LDS Church and Its People.** (3:3:0)
The LDS Church from a social science perspective, including the Church as a new religious movement; LDS culture; the institutionalization process.

**328. Sociology of Sport.** (3:3:0)
Analysis of the sociological aspects of sport and their relationship to politics, economics, stratification, education, and family. Focus on concepts, theory, and related research.

**329. Medical Sociology.** (3:3:0) Prerequisite: Soc 111 or Psych 111.
Social epidemiology, the sick role, sociocultural definitions of and responses to illness, and the organization of medical-health delivery systems.

**335. Social Change and Modernization in Latin America.** (3:3:0)
Contemporary changes in the social institutions and cultures as related to the modernization process.

**345. World Populations.** (3:3:0) Prerequisite: Soc 111.
Fertility, mortality, and migration patterns of world populations as they relate to current social, economic, political, and religious issues.

**350. (Soc-Psych) Introduction to Social Psychology.** (3:3:0) Independent Study also.
Conformity and obedience; socialization, norms, roles; attitudes, leadership, group processes.

**351. Fundamentals of Self-Image and Self-Esteem.** (3:3:0) Prerequisite: Soc 111.
Social bases and measurement of self-concept. Building positive self-definitions; applications in family, school, and work settings; low self-esteem and deviance.

**357. Interpersonal Growth and Group Processes.** (3:2:2) Independent Study also. Prerequisite: Soc 111.
Effective interpersonal relationships and group functioning.

**358. Effective Social Relations.** (3:2:2) Prerequisite: Soc 111.
Development and practice of skills in social relations, including giving and receiving feedback, conflict resolution, negotiation and bargaining, and leadership choices.

**365. Sociology of Aging.** (3:3:0) Independent Study also.
Demographic and social factors related to aging: agencies, serving older citizens, and role of community in solving problems of aged. Required for students in gerontology minor and/or certificate programs.

**367. Sociology of Gender.** (3:3:0) Prerequisite: Soc 111.
Gender in social institutions: family, social hierarchies, economics, education, organizations, religion, and science.

**370. The Sociology of Urban Life.** (3:3:0) Prerequisite: Soc 111.
Norms, social controls, and social processes in urban areas in both historical and contemporary perspectives.

**380. Deviant Behavior and Social Control.** (3:3:0) Prerequisite: Soc 111.
Theory and research related to deviance. Specific topics include psychosis, addiction, homosexuality, violence, and rape, among others.

**381. Crime, Justice, and Corrections.** (3:3:0) Prerequisite: Soc 111.
Nature and extent of criminal behavior; current theory and research related to causes of crime and treatment of criminals.

**383. Juvenile Delinquency.** (3:3:0) Prerequisite: Soc 111.
Lawlessness of children and adolescents: causation, treatment, prevention, and outlook.

**389. Social Aspects of Mental Health.** (3:3:0) Independent Study also. Prerequisite: Soc 111.
Personality disorders and emotional maladjustments that originate in group life; social causation, treatment, and prevention of mental illness.

**390R. Special Topics in Contemporary Sociology.** (1–3:3:0 ea.) Prerequisite: instructor's consent.
Course content varies from year to year.

**398R. People and Cultures Around the World.** (1–3:Arr.:Arr. ea.)
Sociological aspects of societies included in BYU Travel Study tours.

**399R. Cooperative Education: Internship.** (1–3:0:0 ea.) F, W, Sp, Su
Individualized work or volunteer experience in either a research setting or some kind of field placement with an organization.

**400. Social Science Computing and Data Analysis.** (3:3:0) Prerequisite: Soc 205, 300, 303, or instructor's consent.
Social science data management and analysis using SPSSX. Introduction to operating systems, data entry, file creation and management, and data manipulation.

**411. Development of Sociological Theory.** (3:3:0) Prerequisite: Soc 111, 205, 300, 311.
Contributions of outstanding theorists, such as Durkheim, Weber, Spencer, Marx, Simmel, Cooley, and Mead to development of sociology.

**420. Social Organization.** (3:3:0) Prerequisite: Soc 111, 205, 300, 311.
Social organization perspectives; nature and problems; bureaucracy, management, structure, change; relations between individuals and organizations; general societal context.

**422. Social Stratification.** (3:3:0) Prerequisite: Soc 111, 205, 300, 311.
Distributions of money, prestige, and power as they relate to life chances, lifestyle, other social institutions, and social justice.

**429. Theory of Social Change and Modernization.** (3:3:0) Prerequisite: Soc 111, 205, 300, 311.
Social change in contemporary society from diverse theoretical points of view.

**430. Planned Change.** (3:3:0) Prerequisite: Soc 111, 205, 300, 311.
Principles, prescriptive models, and strategies of planned change in various social contexts.

**460. Marriage and Family Interaction.** (3:3:0) Prerequisite: Soc 111.
Advanced appraisal of courtship, marriage relationships, and family interaction. Primarily for majors in sociology, family sciences, and related fields.

## 500-Level Graduate Courses (available to advanced undergraduates)

**503. Advanced Social Science Computing.** (3:3:1) Prerequisite: Soc 303, 400, or instructor's consent.
Appropriate use of computer technology and software in social science scholarship and research: data acquisition and management, advanced statistical methods, computer information retrieval and exchange.

**504. Mathematical Sociology.** (3:3:0) Prerequisite: Math 105.
Mathematical techniques of simulating and modeling social processes.

**515. Seminar in Sociological Practice.** (3:3:0) Prerequisite: Soc 315, 600, 606, 610.
Uses of sociological theory and methods to deal with individual, organizational, and societal problems. Techniques for communicating such knowledge to the nonsociologist.

**524. Advanced Political Sociology.** (3:3:0)
Social basis of political behavior. Modern theories and research concerning use of power and decision making.

**525. Sociology of Religion.** (3:3:0) Prerequisite: Soc 111, 325, or instructor's consent.
Influences of social factors in the development of various religious systems.

**527. Sociology of the LDS Church and Its People.** (3:3:0)
An advanced analysis of the LDS Church from a social science perspective, including the Church as a new religious movement; LDS culture; the institutionalization process.

**528. Sociology of Rural Communities.** (3:3:0) F, W Prerequisite: Soc 311, 370, or instructor's consent.
Review and critique of major theoretical and methodological approaches to the study of community, with a focus on rural communities.

**530. Sociology of International Development.** (3:3:0)
Major theoretical paradigms of development with strategies and practical application in the international setting.

**545. Population Analysis.** (3:3:0) Prerequisite: Soc 205 or equivalent.
Availability, use, and interpretation of population data for local, state, and national areas applied to planning and evaluation.

**550. History and Development of Theory About the Family.** (3:3:0) Prerequisite: FamSc 250, Soc 311, or equivalent.
Historical/intellectual roots of theorizing about families; paradigms and assumptions underlying theorizing; contemporary research and theory interface.

**560. (Soc-FamSc) Contemporary Theories About the Family.** (3:3:0)
Contemporary theories and research about the family, emphasizing role, exchange, and systems theories.

**561. The Family Institution.** (3:3:0)
The family in different societies; problems created by various family systems.

**565. The Individual and Family in Later Years.** (3:3:0)
Developmental aspects of aging, focusing on the biophysical, cognitive, social, affective, and pathological dimensions in people aged 50 and over.

**590R. Special Topics in Sociology.** (1–3:3:0 ea.) Prerequisite: instructor's consent.
Course content varies from year to year.

**595R. Directed Readings.** (1–3:0:6 ea.)
Individualized reading program supervised by faculty member. Pass/Fail only.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Sociology Faculty

**Professors**

Bahr, Howard M. (1973) BA, Brigham Young U., 1962; MS, PhD, U. of Texas, Austin, 1964, 1965.
Bahr, Stephen J. (1973) BS, MS, Brigham Young U., 1968, 1969; PhD, Washington State U., 1972.
Chadwick, Bruce A. (1972) BA, MA, PhD, Washington U., 1964, 1965, 1967.
Duke, James T. (1963) BA, MA, U. of Utah, 1957, 1958; PhD, U. of California, Los Angeles, 1963.
England, J. Lynn (1970) BA, MA, U. of Utah, 1965, 1967; PhD, U. of Pittsburgh, 1971.
Heaton, Tim B. (1980) BS, MS, Brigham Young U., 1974, 1975; PhD, U. of Wisconsin, Madison, 1979.
Jacobson, Cardell K. (1981) BS, Brigham Young U., 1966; MA, PhD, U. of North Carolina, Chapel Hill, 1969, 1971.
Johnson, Barry L. (1965) BS, MS, Brigham Young U., 1963, 1965; PhD, U. of North Carolina, 1977.
Kunz, Phillip R. (1968) BS, MS, Brigham Young U., 1961, 1962; PhD, U. of Michigan, 1967.
Seggar, John F. (1967) BS, Brigham Young U., 1962; MA, PhD, U. of Kentucky, 1964, 1968.
Thomas, Darwin L. (1972) BA, MA, Brigham Young U., 1962, 1964; PhD, U. of Minnesota, St. Paul, 1968.

**Associate Professors**

Barber, Brian K. (1990) BA, U. of California, Santa Cruz, 1977; MA, California Family Study Center, 1983; PhD, Brigham Young U., 1987.
Call, Vaughn (1993) BS, MS, Brigham Young U., 1970, 1974; PhD, Washington State U., 1977.
Cornwall, Marie (1986) BA, U. of Utah, 1971; MS, Brigham Young U., 1977; PhD, U. of Minnesota, 1985.
Johnson, Richard E. (1976) BS, Brigham Young U., 1971; MA, PhD, U. of Washington, 1972, 1976.
Young, Lawrence A. (1986) BS, MS, Brigham Young U., 1978, 1980; PhD, U. of Wisconsin, Madison, 1989.

**Assistant Professors**

Duke, James B. (1990) BS, Brigham Young U., 1983; AM, PhD, Harvard U., 1986, 1991.
Forste, Renata T. (1995) BS, MS, Brigham Young U., 1984, 1986; PhD, U. of Chicago, 1992.
Knapp, Stan J. (1995) BA, MS, Brigham Young U., 1987, 1989; PhD, Florida State U., 1996.
Torres, John C. (1995) AB, AM, PhD, Stanford U., 1990, 1993, 1995.
Ward, Carol (1990) BA, MA, North Texas State U., 1973, 1976; PhD, U. of Chicago, 1992.

**Emeriti**

Larsen, Vernon W. (1952) BA, MA, Brigham Young U., 1949, 1950; PhD, Cornell U., 1957.
Peterson, Evan T. (1953) BS, MS, Brigham Young U., 1953, 1953; PhD, U. of Michigan, 1959.
Rollins, Boyd C. (1963) BS, Utah State U., 1953; MS, Brigham Young U., 1958; PhD, Cornell U., 1961.
Smith, Wilford E. (1947) BA, U. of Utah, 1943; MA, Brigham Young U., 1948; PhD, U. of Washington, 1952.
Warner, W. Keith (1971) BS, MS, Utah State U., 1958, 1959; PhD, Cornell U., 1960.

# South American Indian Languages

See Linguistics.

# Spanish and Portuguese

John R. Rosenberg, Chair
4048 JKHB, PO Box 26014, (801) 378-2837

College of Humanities Advisement Center
3078 JKHB, PO Box 26101, (801) 378-4789

## Admission to Degree Program

All degree programs in the Department of Spanish and Portuguese are open enrollment. However, special limitations apply for teaching and translation majors.

## The Discipline

The Spanish and Portuguese romance languages and literatures dominate the Iberian Peninsula, major parts of Africa, and the southern portion of the new world from Mexico to the Magellan Straits. These languages, spoken by over 450 million people in twenty-one countries, provide a wide spectrum of cultural, linguistic, and literary variety. Spanish represents a vibrant literature that stands at the forefront of twentieth-century excellence and innovation. It is a linguist's paradise of dialects, rapid change, and development.

Such breadth—plus some 20 million speakers within the borders of the United States itself—gives multiple opportunities for developing skill in the spoken language, as well as in listening, reading, writing, and translation. Studying the Iberian roots of this large and important part of the population and learning about the people's perception of life also brings greater understanding of their values and their struggle for identity. A Spanish or Portuguese major makes for a demanding, intriguing, and pleasurable experience.

## Career Opportunities

The field of teaching has always provided good employment opportunities for Spanish majors. In addition, opportunities for both Spanish and Portuguese have been found in government service (translation, U.S. State Department, CIA, FBI, Border Patrol, Peace Corps, NSA, USIA), business, social work, airlines, banking, etc. Many majors go on to professional schools (law, medicine, dentistry, business, etc.), where a liberal arts background is advised. For employment in fields other than teaching, a strong minor or a second major in the employment area is strongly encouraged. Teaching majors are required to complete a teaching minor.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Portuguese |
| BA | Honors in Portuguese and University Honors |
| BA | Spanish |
| BA | Honors in Spanish and University Honors |
| BA | Spanish Teaching |
| BA | Spanish Translation |
| Minors | Portuguese |
| | Spanish |
| | Spanish Teaching |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | Portuguese |
| MA | Spanish |
| MA | Language Acquisition (Spanish and Portuguese) |

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

#### Foreign Language Student Residence

The Foreign Language Student Residence provides live-in opportunities for students in Spanish and Portuguese. A twenty-four-hour-a-day Spanish or Portuguese rule assures participants intensive use of the language, under the direction of native speakers. See the department secretary at 4048 JKHB for information.

#### Language Skills Development

A program to improve and monitor all language skills at each level of course work has been developed by the department,

and a final oral proficiency examination is required of all graduating seniors. Writing skills in Spanish or Portuguese courses will advance from writing exercises and short messages in 100-level courses to original short themes in 200-level classes. Papers in the language at the 300-level and more extensive research and vocabulary and full control of structures at the 400-level will complete the program.

**Minor, Double Major, or Approved Supporting Course Work Required for Spanish or Portuguese Majors**

All Spanish and Portuguese majors are required to complete either a minor (from any department in the university), 15 hours of approved supporting course work, or a double major.

Nonteaching majors who do not wish to complete a formal minor may substitute at least 15 hours of courses from among the following related fields: a second modern foreign language (upper-division courses only), Latin, Greek, English (beyond the GE requirement), linguistics, classical civilization, Latin American history or geography, Spanish history or geography, humanities, archaeology of Spain or Latin America, comparative literature, or other areas approved by the department chair.

Nonteaching and nontranslation majors also may meet their minor requirement by completing 15 additional hours consisting of elective Spanish courses or (strongly recommended) a combination of Spanish electives and interdisciplinary work. In all cases these courses must form a coherent program and *must be preapproved* by the department chair.

A double major is an acceptable alternative to a minor.

**Foreign Residency**

The department strongly recommends that all majors participate in an extended (at least two continuous months) and intensive language and culture experience in a Spanish- or Portuguese-speaking country or area.

A student should complete this requirement by:

1. Residency abroad (may include a Spanish or Portuguese LDS mission, attendance at a foreign university, an advanced exchange program, or similar intensive foreign residence).
2. Participating in BYU Study Abroad Programs in Spain or Latin America.
3. Participating in individual or group-arranged internship programs abroad as approved by the department.

Students unable to participate in one of these programs must spend at least one year (two semesters) in the Foreign Language Student Residence, pledging to use only Spanish or Portuguese within the residence. Prerequisite to this experience is Span/Port 201 or its equivalent; any exceptions must be approved by the department. For further information contact the department secretary or the Foreign Language Student Residence Office (4088 JKHB, PO Box 26001, [801] 378-2775).

# *Portuguese*

## BA Portuguese (48–68 hours minimum*)

**Major Requirements**

1. No D credit is allowed in major or minor courses.
2. At least 15 hours of upper-division major credit must be taken in residence at BYU.
3. Meet the foreign residency requirement.
4. Complete a minor (approximately 16–21 hours), second major (approximately 30–60 hours), or supporting course work (15 hours).
5. Complete the following prerequisite courses:
   Port 101, 102, 201, 211R.
   **And** select one course from the following:
   Port 202, 302.

   **Note:** Students with foreign residence experience should take Port 302.

   **Note:** Prerequisite courses may be waived for those having sufficient proficiency with the language.
6. Complete the following:
   Port 321, 322, 339, 441, 451.
7. Select one course from the following:
   Port 345, 355.
8. Select 12 hours from the following:
   Port 326, 329, 345, 355, 439R, 442, 449R, 452, 453, 459R, 480R, 490, 520, 521, 522, 529R.

   **Note:** Portuguese-speaking missionaries and natives may not count Port 311R as part of the 12 hours.

**Recommended Course**

Port 490 is highly recommended for those who wish to pursue a graduate degree.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Portuguese and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Portuguese (15 hours)

1. Complete the following:
   Port 321, 339.
2. Select one course from the following:
   Port 345, 355.
3. Select one course from the following:
   Port 441, 451.
4. Complete 3 additional upper-division hours from the courses outlined for the major.

## Portuguese (Port)

### Undergraduate Courses

**101, 102. First-Year Portuguese.** (4:5:1 ea.)
Pronunciation, conversation, reading, and fundamentals of grammar. Specific attention to Portuguese as the language of Brazil.

**199R. Cooperative Education.** (1–3:0:0 ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
On-the-job experience evaluated by supervisor and posted on student's transcript.

**201. Intermediate Portuguese Reading and Conversation.** (4:5:0) Prerequisite: Port 102 or three units of high school Portuguese.
Review of grammar. Reading, writing, conversation.

**202. Portuguese Reading and Comprehension.** (3:3:0) Prerequisite: Port 201.
Fourth-semester class combining grammar and culture. Not for returned missionaries. Culmination of GE Mathematics/Foreign Language requirement.

**211R. First-Semester Conversation.** (2:2:1 ea.) Prerequisite: Port 102 or equivalent. Recommended: concurrent registration in Port 201.

**212. Second-Semester Conversation.** (2:2:1) Prerequisite: Port 211 or equivalent.

**302. Advanced Portuguese Grammar, Reading, and Culture.** (3:3:0) Native speakers should take Port 321.
Introduction of culture, literature, and grammatical concerns through reading short stories, novels, and drama in Portuguese. First class for returned missionaries.

**311R. Third-Year Conversation.** (2:2:1 ea.) Prerequisite: Port 211 or equivalent.
Tools course to help students improve oral proficiency. Will not count for major or minor.

**321, 322. Third-Year Portuguese Grammar and Composition.** (3:3:0 ea.) Prerequisite: Port 202 and 16 hours of Portuguese or the equivalent.

**326. Portuguese Phonetics and Pronunciation.** (3:3:3) Prerequisite: Port 321 or equivalent.
Underlying concepts of Portuguese speech production and applications to pronunciation.

**329. Survey of Luso-Brazilian Linguistics.** (3:3:0) Prerequisite: Port 321 or equivalent.
Introduction to linguistics of Portuguese: phonetics, phonology, morphology, syntax, semantics, history of the Portuguese language, philology, dialectology, sociolinguistics, and psycholinguistics.

**339. Introduction to Portuguese and Brazilian Literature.** (3:3:0) Prerequisite: Port 321 or equivalent.
Readings in modern literature; formal literary analysis.

**345. Portuguese Civilization.** (3:3:0) Prerequisite: Port 321 or equivalent.
Culture, history, art, music, and traditions of Portugal.

**355. Brazilian Civilization.** (3:3:0) Prerequisite: Port 321 or equivalent.
Culture, history, art, music, and traditions of Brazil.

**395R. Contemporary Culture.** (1–3:0:0 ea.) For Study Abroad programs only. Prerequisite: Port 201 or equivalent.
Contemporary Portuguese or Brazilian culture: the people and their customs and institutions.

**399R. Cooperative Education: Portuguese Language Field Experience.** (1–6:0:0 ea.) Prerequisite: program coordinator's consent.
On-the-job experience.

**439R. Luso-Brazilian Theatre Production.** (3:3:0 ea.)
Theory and practice of dramatic performance. Includes participation in play to be performed during semester.

**Note:** No more than 3 hours of 439R credit may count toward any degree.

**441. Survey of Portuguese Literature.** (3:3:0) Prerequisite: Port 339 or equivalent.
Literary periods, genres, and great writers of Portugal.

**442. Camões.** (3:3:0) Prerequisite: Port 441 or equivalent.

**449R. Special Topics in Portuguese Literature.** (3:3:0 ea.) Prerequisite: Port 441, 451, or equivalent.
Specific topics in Portuguese (Peninsular) literature. Course content will vary each semester to offer optimum exposure to all areas of Portuguese literature.

**451. Survey of Brazilian Literature.** (3:3:0) Prerequisite: Port 339 or equivalent.
Literary periods, genres, and great writers of Brazil.

**452. Machado de Assis.** (3:3:0) Prerequisite: Port 451 or equivalent.

**453. Twentieth-Century Brazilian Literature.** (3:3:0) Prerequisite: Port 441, 451, or equivalent.

**459R. Special Topics in Brazilian Literature.** (3:3:0 ea.) Prerequisite: Port 441, 451, or equivalent.
Specific topics in Portuguese (Brazilian) literature. Course content will vary each semester to offer optimum exposure to all areas of Portuguese literature.

**480R. Directed Research in Portuguese.** (1–3:Arr.:0 ea.) Prerequisite: written proposal subject to department approval. Independent Study only.
Under faculty member's direction, designing and conducting research project covering material not normally presented in regular course work. Research paper required. Total Port 480R credit toward bachelor's degree not to exceed 3 hours.

**490. Senior Seminar in Portuguese.** (1–3:0:0) Prerequisite: senior standing.
Bibliography, research, and writing of senior thesis. Recommended for students planning graduate studies in Portuguese.

**491. Senior Proficiency Evaluation.** (0:1:0)
Tool course to meet oral proficiency requirement for all majors. No major or minor credit.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**520. Advanced Portuguese Grammar.** (3:3:0) Prerequisite: Port 321.
Applying contemporary grammatical concepts to problems in Portuguese grammar.

**521. Romance Philology.** (3:3:0) Prerequisite: Port 321.
Comparative study of evolution of Latin into modern romance languages.

**522. History of the Portuguese Language.** (3:3:0) Prerequisite: Port 321.
Linguistic sources that contributed to formation of Portuguese.

**529R. Special Topics in Portuguese Linguistics.** (3:3:0 ea.) Prerequisite: Port 321.
Topics from semantics to dialectology to sociolinguistics.

**599R. Cooperative Education: Portuguese Internship.** (1–3:0:0 ea.) Prerequisite: Port 321 and instructor's consent.
For supervised internship credit on BYU Study Abroad programs only.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# Spanish

## BA Spanish (54–76 hours minimum*)

**Major Requirements**

1. No D credit is allowed in major or minor courses.
2. At least 18 hours of upper-division major credit must be taken in residence at BYU.
3. Meet the foreign residency requirement.
4. Complete a minor (approximately 16–21 hours), second major (approximately 30–60 hours), or supporting course work (15 hours).
5. Complete the following prerequisite courses:
   Span 101, 102, 201, 211R, 212.
   **And** select one course from the following:
   Span 202, 302.

   **Note:** Students with foreign residence experience should take Span 302.

   **Note:** Prerequisite courses may be waived for those having sufficient proficiency with the language.
6. Complete the following:
   Span 321, 322, 339, 441, 451.
7. Select one course from the following:
   Span 345, 355.
8. Select 18 hours from the following:
   Select at least one linguistics course from the following:
   Span 326, 329, 423, 425, 520, 521, 522, 529R.
   Select at least one literature course from the following:
   Span 440, 443R, 444, 446R, 448R, 449R, 450R, 454R, 455R, 456R, 458R, 459R, 461R.
   Select four additional courses (12 hours) from the linguistics or literature electives above or from the following (Span 345 and 355 will not double count):
   Span 345, 355, 365, 377, 378, 395R, 439R, 480R, 490.
9. Complete the following:
   Span 491.

   **Note:** The Senior Proficiency Evaluation is taken in connection with Span 491. It is expected that Spanish majors will pass with a rating of "advanced plus" or higher.

**Recommended Course**

Span 490 is highly recommended for those who wish to pursue a graduate degree.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Spanish and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA Spanish Teaching (82–104 hours minimum,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 18 hours of upper-division major credit must be completed in residence at BYU.
3. Meet the foreign residency requirement.
4. Complete an approved teaching minor (approximately 16–21 hours).
5. Complete the following prerequisite courses:
   Span 101, 102, 201, 211R, 212.
   **And** select one course from the following:
   Span 202, 302.

   **Note:** Students with foreign residence experience should take Span 302.

   **Note:** These prerequisite courses may be waived for those having sufficient proficiency with the language.
6. Complete the following:
   Span 321, 322, 326, 339, 345, 355, 377, 378, 441, 451.

   **Note:** Span 377 and 378 must be taken before student teaching.
7. Select 6 hours from the following courses:
   Span 329, 365, 395R, 423, 425, 439R, 440, 443R, 444, 446R, 448R, 449R, 450R, 454R, 455R, 456R, 458R, 459R, 461R, 480R, 490, 520, 521, 522, 529R.
8. Complete the following:
   Span 491.

   **Note:** The Senior Proficiency Evaluation is taken in connection with Span 491. It is expected that Spanish majors will pass with a rating of "advanced plus" or higher.
9. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Spanish Translation (54–76 hours minimum*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. At least 18 hours of upper-division major credit must be completed in residence at BYU.
3. Meet the foreign residency requirement.
4. Complete a minor (approximately 16–21 hours), second major (approximately 30–60 hours), or supporting course work (15 hours).
5. Complete the following prerequisite courses:
   Span 101, 102, 201, 211R, 212.
   **And** select one course from the following:
   Span 202, 302.

   **Note:** Students with foreign residence experience should take Span 302.

   **Note:** These prerequisite courses may be waived for those having sufficient proficiency with the language.

**Note:** Students wishing to major in Spanish translation and interpretation must apply for admission to the program and pass an entrance exam in Spanish and English. Contact the department secretary the first week of February each year to obtain the official date and place of the exam.

6. Complete the following:
   Span 321, 322, 339, 425, 441, 451.

   **Note:** Span 321 and 322 must be completed with a grade of B or better.
7. Select one course from the following:
   Span 345, 355.
8. Complete the following courses in sequence:
   Span 427, 428, 527, 528.

   **Note:** These four courses require a minimum of a B grade. (Span 322, 425, and either Span 345 or 355 must be taken before Span 427.)
9. Select 3 hours from the following:
   Span 326, 329, 345, 355, 365, 377, 378, 395R, 423, 439R, 440, 443R, 444, 446R, 448R, 449R, 450R, 454R, 455R, 458R, 459R, 461R, 480R, 490, 520, 521, 522, 529R.
10. Complete the following:
    Span 491.

    **Note:** The Senior Proficiency Evaluation is taken in connection with Span 491. It is expected that Spanish majors will pass with a rating of "advanced plus" or higher.

*Hours include courses that may fulfill GE or university requirements.

## Minor Spanish (18 hours)

1. Complete the following:
   Span 321, 339.
2. Select one course from the following:
   Span 345, 355.
3. Select one course from the following:
   Span 441, 451.
4. Select 6 hours from upper-division courses outlined for the major. Span 302 credit may be applied to the Spanish minor but is not required.

## Minor Spanish Teaching (21 hours)

1. Complete the following:
   Span 321, 326, 339, 377, 378.

   **Note:** Span 377 and 378 must be taken before student teaching. Span 377 will be waived for students majoring in another language who have had the course in that language. Students who waive the class will need to take 3 additional elective hours from the 300-, 400-, or 500-level courses in Spanish.
2. Select one course from the following:
   Span 345, 355.
3. Select one course from the following:
   Span 441, 451.
4. Complete the following:
   Span 491.

   **Note:** The Senior Proficiency Evaluation is taken in connection with Span 491. It is expected that students will pass with a rating of "advanced plus" or higher.

## Spanish (Span)

### Undergraduate Courses

**100A. Introductory Spanish.** (2:3:1)
Independent Study also. First semester for those who have had no Spanish and desire maximum time for assimilation.

**100B. Second Semester, Introductory Spanish.** (2:3:1)
Prerequisite: Span 100A.
Continuation of Span 100A.

**101, 102. First-Year Spanish.** (4:5:2 ea.)
For students with little or no previous Spanish. Fundamentals of Spanish, emphasizing communication. (Accelerated sections available for those with more language experience.) Placement exam required.

**121, 122. Intensive Reading in Spanish.** (4:4:0 ea.) For students with little or no Spanish.
Developing reading skills in area of student's specialization. Graduate students will be graded pass/fail; undergraduate students will receive letter grades.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**201. Second-Year Spanish.** (4:5:1) Independent Study also. Prerequisite: Span 102, three units of high school Spanish, or placement by diagnostic test.
Review of grammar, reading, writing, conversation.

**202. Spanish Reading and Comprehension.** (3:3:1) Prerequisite: Span 201.
Fourth-semester class introducing culture and grammar through study of literature. Not for returned missionaries.

**211R. First-Semester Conversation.** (2:2.5:1 ea.) Prerequisite: Span 102 or equivalent. Recommended: concurrent registration in Span 201.

**212. Second-Semester Conversation.** (2:2.5:1) Prerequisite: Span 211 or equivalent. Recommended: concurrent registration in Span 201 or 202.

**302. Intermediate Spanish Grammar Review, Reading, and Culture.** (3:3:0)
Introduction of culture, literature, and grammatical concerns through reading short stories, novels, and drama in Spanish. First class for returned missionaries.

**Note:** Native speakers should take Span 321.

**310. Premajor Skills Review.** (3:3:0) Prerequisite: Span 202 or equivalent.
Required of students whose scores on a qualifying exam show that they are not prepared for Span 321. Emphasis on grammar, conversation, composition, and listening comprehension.

**311R. Spanish Oral Proficiency Preparation.** (2:2:1 ea.) Prerequisite: Span 212 or equivalent.
Tools course to help students meet oral proficiency requirements for major and minor. Will not count for major or minor.

**321. Third-Year Spanish Grammar and Composition.** (3:3:0) Prerequisite: Span 202, 302, or equivalent.
Intensive study and practice with Spanish grammar, vocabulary, and writing.

**322. Third-Year Spanish Grammar and Stylistics.** (3:3:0) Prerequisite: Span 321.
Continuation of Span 321, with increased emphasis on stylistics of writing and addition of word processing skills.

**326. Spanish Phonetics and Pronunciation.** (3:3:0) Prerequisite: Span 202, 302, or equivalent.
Underlying concepts of Spanish speech production and applications to pronunciation.

**329. Survey of Hispanic Linguistics.** (3:3:0) Prerequisite: Span 321 or equivalent.
Introduction to linguistics of Spanish: phonetics, phonology, morphology, syntax, semantics, history of the Spanish language, philology, dialectology, sociolinguistics, and psycholinguistics.

**339. Introduction to Spanish Literature.** (3:3:0) Independent Study also. Prerequisite: Span 202, 302, or equivalent. Course is prerequisite to 400-level literature courses.
Readings in modern Hispanic literatures, focusing on formal literary analysis.

**345. Iberian Civilization.** (3:3:0) Prerequisite: Span 202, 302, or equivalent.
Culture, history, art, music, and traditions of Spain.

**355. Ibero-American Civilization.** (3:3:0) Prerequisite: Span 202, 302, or equivalent.
Culture, history, art, music, and traditions of Spanish America.

**365. Mexican-American Culture.** (3:3:0) Prerequisite: Span 202, 302, or equivalent.
Contemporary culture (education, popular and fine arts, worldview, attitudes, etc.) of the Mexican-American in the U.S.

**Note:** Prospective teachers should take Span 377 and 378 just before student teaching and after as many upper-division Spanish courses as possible.
Spanish-teaching majors and minors must take both Span 377 and 378.
Prospective student instructors must take Span 377 before employment, but preference will be given to candidates who have taken both Span 377 and 378.

**377. Spanish Language Teaching Procedures 1.** (3:3:2) Prerequisite: Span 321, 326; 345 or 355; and, for certification, ScEd 276.
Mastery of skills specific to foreign language instruction with emphasis on skills taught in first-year courses.

**378. Spanish Language Teaching Procedures 2.** (3:3:2) Prerequisite: Span 377.
Mastery of skills specific to foreign language instruction; emphasizes skills taught in intermediate courses (reading, writing, testing, and nontraditional methodologies).

**395R. Contemporary Culture.** (1–3:Arr.:Arr. ea.) For Study Abroad programs only. Prerequisite: Span 102 or equivalent.
Contemporary Spanish (or Spanish- American) culture: the people and their customs and institutions.

**399R. Cooperative Education: Spanish Language Field Experience.** (1–6:0:0 ea.) Prerequisite: program coordinator's consent.
On-the-job experience.

**421. Advanced Spanish Grammar.** (3:3:0) F, W Prerequisite: Span 321, 322.
Fourth-year intensive study of Spanish grammar and usage.

**423. Border Spanish.** (3:3:0) Prerequisite: Span 321 or equivalent.
Mexican-American speech patterns and their impact on the Spanish-speaking American subculture.

**425. Structure of the Spanish Language.** (3:3:0) Prerequisite: Span 321.
Contrastive analysis of phonology and grammatical structures of Spanish and English.

**427. Beginning Translation and Interpretation 1.** (3:3:1) Prerequisite: Span 321, 322, with a B grade or better.
Introduction to history, theory, and principles of translation and interpretation.

**428. Beginning Translation and Interpretation 2.** (3:3:0) Prerequisite: Span 427.
Systematic study and contrastive exercises in translation and interpretation. Translation of texts in general conceptual fields.

**439R. Hispanic Theatre Production.** (3:3:0 ea.) Prerequisite: director's consent.
Theory and practice of dramatic performance. Includes participation in play to be performed during semester.

**Note:** No more than 3 hours of 439R credit may count toward any degree.

**440. Medieval Spanish Literature.** (3:3:0) Prerequisite: Span 441 or equivalent.
Spanish literature from *El Cantar de Mió Cid* (1140) through *La Celestina* (1499).

**441. Survey of Spanish Literature.** (3:3:0) Independent Study also. Prerequisite: Span 339.
Literary masterpieces of Spain.

**443R. Golden Age Literature.** (3:3:0 ea.) Prerequisite: Span 441 or equivalent.
Sixteenth- and seventeenth-century Spanish literature.

**444. *Don Quijote.*** (3:3:0) Prerequisite: Span 441 or equivalent.
In-depth study of Cervantes' *El ingenioso hidalgo don Quijote de la Mancha.*

**446R. Nineteenth-Century Literature.** (3:3:0 ea.) Prerequisite: Span 441 or equivalent.
Romanticism (1770s through 1870s) and/or the novels of Benito Pérez Galdós and his contemporaries.

**448R. Twentieth-Century Spanish Literature.** (3:3:0 ea.) Prerequisite: Span 441 or equivalent.
Genre (twentieth-century novel, drama, or poetry) or particular school (Generation of 1898, Generation of 1927, etc.) emphasized.

**449R. Special Topics in Spanish Literature.** (3:3:0 ea.) Prerequisite: Span 441 or equivalent.
Specific topics in Spanish (peninsular) literature. Course content will vary each semester to offer optimum exposure to all areas of Spanish literature.

**450R. Pre-Columbian and Colonial Literature.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Indigenous literature (Maya, Nahuatl, etc.) and other texts written in Spanish Colonial America through eighteenth century.

**451. Survey of Hispanic-American Literature.** (3:3:0) Independent Study also. Prerequisite: Span 339.
Literary masterpieces of Spanish America.

**454R. The Spanish American Novel.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Selected Spanish-American novelists such as Juan Rulfo, Gabriel Garciá Márquez, Alejo Carpentier, Mario Vargas, Llosa, etc.

**455R. Spanish American Poetry.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Selected Spanish-American poets, movements, and national traditions.

**456R. Spanish American Drama.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Twentieth-century theatre from Spanish America and Brazil.

**458R. Hispanic-American Short Story.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Introduction and development of an important literary genre in Spanish America, including works of Jorge Luis Borges, Julio Cortázar, Juan Rulfo, Gabriel Garciá Márquez, etc.

**459R. Special Topics in Spanish American Literature.** (3:3:0 ea.) Prerequisite: Span 451 or equivalent.
Specific topics in Latin American literature. Course content will vary each semester to offer optimum exposure to all areas of Latin American literature.

**461R. Spanish-Speaking American (Mexican-American) Literature.** (3:3:0 ea.) Prerequisite: Span 339 or instructor's consent.
Spanish-English literature of the Mexican-American within the United States.

**480R. Directed Research in Spanish.** (1–3:Arr.:0 ea.) Prerequisite: written proposal subject to department approval. Independent Study only.
Under faculty member's direction, designing and conducting research project covering material not normally presented in regular course work. Research paper required. Total Span 480R credit toward bachelor's degree not to exceed 3 hours.

**490. Senior Seminar in Spanish.** (3:3:0) Prerequisite: senior standing.
Bibliography, research, and writing of senior thesis. Recommended for students planning graduate studies in Spanish.

**491. Senior Proficiency Evaluation.** (0:1:0)
Tool course to meet oral proficiency requirement for all majors and teaching minors. No major or minor credit.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**520. Problems in Spanish Grammar.** (3:3:0)
Application of contemporary grammatical concepts to problems in Spanish grammar.

**521. Romance Philology.** (3:3:0)
Comparative study of evolution of Latin into modern romance languages.

**522. History of the Spanish Language.** (3:3:0)
Linguistic sources that contributed to formation of the Spanish language.

**527. Translation and Interpretation 1.** (3:3:0) Prerequisite: Span 428.
Translation of texts in specific fields. Simultaneous interpretation.

**528. Translation and Interpretation 2.** (3:3:0) Prerequisite: Span 527.
Individual translation and/or interpretation projects.

**529R. Special Topics in Spanish Linguistics.** (3:3:0 ea.) Prerequisite: Span 520, 522.
Topics include semantics, dialectology, and sociolinguistics.

**577. Spanish Language Teaching Procedures.** (3:3:2) For public school teachers.
Mastery of skills specific to foreign language instruction. Lectures, demonstrations, practical experience.

**580R. Directed Research in Spanish.** (1–3:Arr.:0 ea.) Prerequisite: written proposal subject to department approval.
Under faculty member's direction, designing and conducting research project covering material not normally presented in regular course work. Research paper required. Total 580R credit toward master's degree not to exceed 3 hours.

**599R. Cooperative Education: Spanish Internship.** (1–3:0:0 ea.) Prerequisite: Span 321 and instructor's consent.
For supervised internship credit on BYU Study Abroad programs only.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Spanish and Portuguese Faculty

**Professors**

Alba, Orlando (1993) BA, U. Católica Madre y Maestra, 1972; MA, U. of Puerto Rico, 1978; PhD, U. Nacional de Educación a Distancia, Madrid, Spain, 1988.
Cluff, Russell M. (1983) BA, MA, Brigham Young U., 1972, 1974; PhD, U. of Illinois, 1978.
Dennis, Ronald D. (1966) BA, Brigham Young U., 1964; MA, PhD, U. of Wisconsin, Madison, 1965, 1972.
Forster, Merlin H. (1987), H. Darrel Taylor Distinguished Professor of Latin American Literature; BA, Brigham Young U., 1956; MA, PhD, U. of Illinois, 1957, 1960.
Larson, Jerry W. (1980) BA, Utah State U., 1969; MA, Brigham Young U., 1974; PhD, U. of Minnesota, Minneapolis, 1977.
Lyon, Thomas E. (Ted) (1972) BA, U. of Utah, 1963; PhD, U. of California, Los Angeles, 1967.
Quackenbush, L. Howard (1970) BA, MA, Brigham Young U., 1965, 1967; PhD, U. of Illinois, 1970.
Taylor, James Scott (1962) BA, MA, Brigham Young U., 1957, 1960; PhD, Ohio State U., 1967.

**Associate Professors**

Ashworth, Peter P. (1966) AA, Bakersfield Coll., 1952; BA, Brigham Young U., 1962; PhD, U. of Oklahoma, 1967.
Clegg, J. Halvor (1972) BA, Brigham Young U., 1964; MA, PhD, U. of Texas, Austin, 1967, 1969.
Fails, Willis Clark (1981) BA, MA, Brigham Young U., 1975, 1977; PhD, U. of Texas, Austin, 1984.
Jensen, Gordon K. (1969) BA, Brigham Young U., 1963; MA, PhD, U. of Wisconsin, Madison, 1966, 1975.
Lund, Christopher C. (1992) BA, Brigham Young U., 1967; MA, PhD, U. of Texas, Austin, 1970, 1974.
Meléndez, Gloria S. (1978) BA, U. of Utah, 1955; PhD, Brigham Young U., 1980.
Meredith, Robert Alan (1976) BA, MA, Brigham Young U., 1969, 1974; PhD, Ohio State U., 1976.
Ramsey, Myriam (1975) Dipl, Pontifícia Universidade Católica do Brasil, Campinas, Brazil, 1954; BA, MAT, Georgia State U., 1971, 1973; PhD, U. of North Carolina, Chapel Hill, 1975.
Rosenberg, John R. (1985) BA, MA, Brigham Young U., 1979, 1981; MA, PhD, Cornell U., 1984, 1985.

**Assistant Professors**

Hegstrom, O. Valerie (1994) BA, MA, Brigham Young U., 1982, 1986; MA, PhD, U. of Kansas, 1988, 1992.
Labrum, Marian B. (1974) BA, MA, Brigham Young U., 1972, 1975, PhD, Middlebury Coll., 1988.
Mathews, Thomas J. (1991) BA, Weber State Coll., 1981; MA, Middlebury Coll., 1984; PhD, U. of Delaware, 1992.

Pratt, Dale J. (1994) BA, Brigham Young U., 1990; PhD, Cornell U., 1994.
Turley, Jeffrey (1989) BA, MA, Brigham Young U., 1982, 1984; PhD, U. of California, Berkeley, 1992.

**Assistant Lecturer**
Hague, Daryl R. (1994) BA, Brigham Young U., 1987; JD, U. of Washington, 1990.
Hoskisson, Joaquina Valtierra de (1990) BA, MA, Brigham Young U., 1971, 1974.

**Poet in Residence**
Rojas, Gonzalo (1985) Licenciatura, Universidad de Chile, 1942, Poet in Residence, 1991.

**Emeriti**
Anderson, C. Dixon (1956) BA, Brigham Young U., 1953; MA, PhD, U. of Texas, Austin, 1956, 1965.
Brown, Jack V. (1964) BA, MA, Brigham Young U., 1957, 1960.
Compton, Merlin D. (1964) BA, MA, Brigham Young U., 1952, 1954; PhD, U. of California, Los Angeles, 1959.
Dowdle, Harold L. (1968) BA, MA, Brigham Young U., 1948, 1949; PhD, Stanford U., 1954.
Gibson, M. Carl (1949) BA, MA, Brigham Young U., 1947, 1949; PhD, U. of Oregon, 1960.
Hall, Wendell H. (1966) BA, MA, U. of Utah, 1952, 1953; PhD, Inter-American U., Mexico, 1974.
Jackson, T. Wendell (1968) BA, Brigham Young U., 1956; PhD, Ohio State U., 1968.
Moon, H. Kay (1963) BA, MA, Brigham Young U., 1957, 1959; PhD, Syracuse U., 1963.
Rosen, Harold E. (1963) BA, MA, Brigham Young U., 1954, 1959; PhD, U. of Oregon, 1966.
Shreeve, Lyman Sidney (1965) BA, MA, Brigham Young U., 1949, 1951; PhD, Inter-American U., Mexico, 1970.
Valentine, Amy Y. (1970) BA, Brigham Young U., 1946.

## Sports

See Physical Education.

# Statistics

Gale Rex Bryce, Chair
230 TMCB, PO Box 26575, (801) 378-4505

College of Physical and Mathmatical Sciences Advisement Center
1116 TMCB, PO Box 26539, (801) 378-6270

## Admission to Degree Program

All degree programs in the Department of Statistics are open enrollment except actuarial science. See item 3 under General Information.

## The Discipline

The statistician's job is to help determine what data are to be collected, how to collect it to avoid biases and distortions, and then how to turn that data into information that other people can understand to help solve problems and reach sound decisions. From the predictions of the political pollster to exacting analyses of pharmaceutical research, the breadth and diversity of statistical applications are injected into nearly all aspects of modern life.

## Career Opportunities

The curriculum and degrees offered through the Department of Statistics are designed to equip students with decision-making skills for careers as professional statisticians in industrial organizations, government agencies, insurance companies, universities, and research institutes. The technical tools statisticians acquire are useful in many areas, and for this reason a statistics degree is also excellent preparation for professional programs in law, business administration, public administration, and actuarial science.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Statistics
Emphases:
- Statistical Science
- Actuarial Science
- Business
- Computer Science
- Quality Science

BS Honors in Statistics and University Honors
Emphases:
- Statistical Science
- Actuarial Science
- Business
- Computer Science
- Quality Science

Minor Statistics

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Statistics

For more information see the 1996–97 BYU Graduate Catalog.

## General Information

1. It is recommended that a student complete the following courses in high school:
   - 3 units of English
   - 1 unit of physical science, either chemistry or physics.
   - 4 units of mathematics, consisting of 2.5 units of algebra, 1 unit of geometry, and 0.5 unit of trigonometry. This should qualify students to begin college mathematics with Math 112, analytic geometry and calculus.

   Because mathematics provides the foundation for all work in the physical and mathematical sciences, particular attention is paid to high school preparation in this subject.

   To decide which mathematics course should be taken first, write to the Mathematics Department, 292 TMCB, and request a mathematics placement test.
2. Students are encouraged to complete 16 credit hours each semester. Taking fewer credits substantially increases the cost and the number of semesters to graduate.

3. Students who select an emphasis in actuarial science must major in the statistical science emphasis until they have successfully passed the first actuarial exam.
4. Students who plan to get an MS degree in statistics should take Stat 520, 521, 531, and 536.

## BS Statistics: Statistical Science Emphasis

**(66 hours*)**

**Major Requirements**

1. Cumulative GPA must be at least 2.0.
2. Complete the following:
   Stat 211, 222, 311, 322, 334, 336, 337, 341, 342, 361.
   Math 112, 113, 343, 344.
   CS 130.
   Engl 316.
3. Select five courses from the following:
   Stat 370, 435, 462, 463, 466, 520, 521, 531, 534, 536, 537, 541, 545, 563.

   **Note 1:** Students may substitute Econ 388 or 588 for one of these courses.

   **Note 2:** Students who plan to get an MS degree in statistics should take Stat 520, 521, 531, and 536.
4. After consulting with a department faculty advisor, select an additional 6 hours in an approved scientific discipline. An approved minor in a scientific discipline may also satisfy this requirement.

*Hours include courses that may fulfill GE or university requirements.

## BS Statistics: Actuarial Science Emphasis

**(66 hours*)**

**Major Requirements**

1. Cumulative GPA must be at least 2.0.
2. Complete the following:
   Stat 211, 222, 311, 322, 334, 336, 337, 341, 361, 370, 463, 520, 521.
   Math 112, 113, 311, 343, 344.
   CS 130.
   Econ 110.
   Engl 316.
3. Select two courses from the following:
   Stat 435, 490R (3 hours), 531, 534, 536, 537, 541, 545, 563.
   Econ 253, 588.
   Soc 329.
   Zool 205.

*Hours include courses that may fulfill GE or university requirements.

## BS Statistics: Business Emphasis (69 hours*)

**Major Requirements**

1. Cumulative GPA must be at least 2.0.
2. Complete the following:
   Stat 211, 222, 311, 322, 334, 336, 337, 341, 342, 361, 370, 463.
   Math 112, 113, 344.
   Econ 110.
   Engl 316.
   CS 130.
3. Select five courses from the following:
   Acc 200.
   BusM 300, 340, 361.
   ManEc 300.
   OrgB 320.
4. Select one course from the following:
   ManEc 487.
   Stat 536.

*Hours include courses that may fulfill GE or university requirements.

## BS Statistics: Computer Science Emphasis

**(66 hours*)**

**Major Requirements**

1. Cumulative GPA must be at least 2.0.
2. Complete the following:
   Stat 211, 222, 311, 322, 334, 336, 337, 341, 342, 361.
   CS 142, 143, 236, 240, 252, 312.
   Math 112, 113, 344.
   Engl 316.
3. Select one of the following 9-credit-hour options:
   a. Option 1:
      (1) Select one course from the following:
          CS 431, 453, 460, 470.
      (2) Select the prerequisite course required from the following:
          CS 330, 380, 452.
      (3) Select one course from the following:
          Stat 462, 463, 531, 536.
   b. Option 2:
      (1) Select one course from the following:
          CS 345, 455.
      (2) Select two courses from the following:
          Stat 462, 463, 531, 536.
   c. Option 3: Complete the following:
      CS 330, 428, 452.
   d. Option 4:
      (1) Complete the following:
          CS 330, 452.
      (2) Select one course from the following:
          Stat 462, 463, 531, 536.

*Hours include courses that may fulfill GE or university requirements.

## BS Statistics: Quality Science Emphasis (72 hours*)

**Major Requirements**

1. Cumulative GPA must be at least 2.0.
2. Complete the following:
   Stat 211, 222, 311, 321, 322, 334, 336, 337, 361, 462, 466.
   Math 112, 113, 344.
   Engl 316.
   CS 130.

3. Select one of the following options:
   a. Engineering option:
      (1) Complete the following:
      MET 131.
      MFE 340, 475, 476, 480.
      OrgB 320.
      (2) Select one course from the following:
      MeEn 473.
      MFE 232.
      (3) Select two courses from the following:
      Acc 200.
      BusM 300, 340, 361.
      ManEc 300.
      Stat 463.
   b. Management option:
      (1) Complete the following:
      Acc 200.
      BusM 300, 340, 361.
      OrgB 320.
      ManEc 300.
      MFE 340.
      (2) Select two courses from the following:
      MET 131.
      MeEn 473.
      MFE 232, 480.
      Stat 463.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Statistics and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## Minor Statistics (16+ hours*)

1. Complete the following:
   Stat 211, 221, 322, 336 (8 hours).
2. Select 3 additional courses by choosing one of the following options:
   a. Methods option:
      (1) Complete the following:
      Stat 311, 337.
      (2) Select one other statistics course numbered 311 or higher.
   b. Survey sampling option:
      (1) Complete the following:
      Stat 334.
      (2) Select two other statistics courses numbered 311 or higher. Recommended: Stat 435.
   c. Quality science option:
      (1) Complete the following:
      Stat 361.
      (2) Select two other courses chosen from the list of statistics, business and/or engineering/technology courses required for a major in statistics with a quality science emphasis. (Courses required for your major may not be used to fulfill a statistics minor.) Recommended: Stat 462 and either Stat 321 or 341.
   d. Math-Statistics option:
      (1) Select one course from the following:
      Stat 321, 341, 421.
      (2) Select two other statistics courses numbered 311 or higher. (If your major does not require Math 112 or 113, these courses may be used as the two additional courses to complete the minor.)

**Note:** Stat 501 can be taken in place of but not in addition to Stat 221 and 336 in item 1. Stat 301, 501, 552, or 554 may not be used to fulfill any option of item 2.

*Hours include courses that may fulfill GE or university requirements.

## Statistics (Stat)

### Undergraduate Courses

**105. Introduction to Statistics.** (3:3:2) F, W, Sp Prerequisite: Math 97.
Fundamental ideas and applications of statistics. Not a GE course.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**211. Introduction to Statistical Computing.** (1:1:1) F, W, Sp Prerequisite: Math 110 and instructor's consent.
Computer techniques for integrating current hardware and software into a statistical computing environment.

**221. Principles of Statistics 1.** (3:3:2) F, W, Sp, Su Independent Study also. Prerequisite: Math 110 or equivalent.
Stemplots, boxplots, histograms, scatterplots; central tendency, variability; confidence intervals and hypothesis testing involving one and two means and proportions; contingency tables, regression; computer package.

**222. Principles of Statistics 2.** (4:4:2) F, W, Sp, Su Honors and Independent Study also. Prerequisite: Math 110 or equivalent.
Three-fourths of the course covers material identical to Stat 221. One-fourth covers analysis of variance and multiple regression and is identical to Stat 223.

**223. Principles of Statistics 3.** (1:0:0) On dem. Prerequisite: Math 110 or equivalent; Stat 221 or equivalent.
Introduction to analysis of variance and multiple regression.

**301. Statistics and Probability for Secondary Educators.** (3:3:2) F, W, Sp Prerequisite: Math 113.
Statistics and probability, emphasizing secondary-specific curriculum. Principles of counting, probability distributions, density functions, graphical methods, descriptive and inferential statistics, computer package.

**311. Introduction to Statistical Software.** (2:2:2) F, W Prerequisite: CS 130, Stat 211, and concurrent registration in Stat 337 or 502.
Software packages SPSS, SAS, S, BMDP, and other statistical software.

**321. Elements of Mathematical Statistics.** (3:3:2) F, W, Sp Independent Study also. Prerequisite: Math 113 or 119 or equivalent.
Probability, random variables, frequency distributions, estimation and tests of hypotheses from a theoretical standpoint.

**322. Matrix Computations in Statistics.** (1:1:0) F, W, Sp Prerequisite: Math 110. Recommended: concurrent registration in Stat 211.
Basic matrix operations, inverses, quadratic forms, rank, canonical forms, eigenvalues and eigenvectors, symmetric matrices, idempotent matrices, orthogonal matrices, positive definite matrices, manipulations using the computer.

**334. Methods of Survey Sampling.** (3:3:2) F, W Prerequisite: Stat 221 or equivalent. Recommended: Stat 211.
Sampling frames, questionnaire design; simple random, systematic, stratified, and cluster sampling methods, comparing domain means, contingency table analysis.

**336. Statistical Methods 1.** (3:3:0) F, W Prerequisite: Stat 221 or 222; 211, 322, or concurrent registration.
Simple estimation and hypothesis testing, nonparametric analogs for t-tests, contingency tables, introduction to completely randomized designs, multiple regression.

**337. Statistical Methods 2.** (3:3:0) F, W Prerequisite: Stat 336; concurrent registration in Stat 311.
Completely randomized, randomized block, Latin, and Graeco-Latin square designs; split plots, model writing, fixed model analysis of covariance, nonparametric analogs of standard designs.

**341. Introduction to Probability Theory.** (3:3:2) F, Sp Prerequisite: Math 113.
Probability; principles of counting; probability distributions, density functions, and their properties. Random variables; conditional distributions, mathematical expectation; transformations. Special cases of discrete and continuous distributions.

**342. Introduction to Statistical Inference.** (3:3:2) W, Su Prerequisite: Stat 341.
Sampling distributions; central limit theorem. Elementary theory of estimation and hypothesis testing. Maximum likelihood; Bayesian methods; likelihood ratio tests. Least squares theory; normal equations.

**361. Quality Improvement for Industry.** (3:3:1) F, W, Sp Prerequisite: Math 110 or equivalent. Recommended: concurrent registration in Stat 336 or 337.
Quality management philosophies (Deming, etc.) Strategies for continuous improvement. Graphical and numerical methods of data analysis. Process control charts. Design and analysis of experiments for process characterization and improvement.

**370. Applied Time Series and Forecasting.** (3:3:0) W Prerequisite: Stat 336.
Univariate time series, univariate Box-Jenkins methodology, ARIMA models, nonstationary models, model building, forecasting, seasonal analysis, case studies.

**421. Probability and Distribution Theory.** (3:3:0) F, Sp Prerequisite: Math 113 or equivalent.
Mathematical formulation of continuous and discrete random variables, including underlying probability models, distribution functions, conditional and marginal probability laws, convolutions and other functions of random variables, limiting distributions.

**435. Analysis of Categorical and Other Nonparametric Data.** (3:3:0) W Prerequisite: Stat 336 or equivalent.
Nonparametric analogs of classical parametric methods, 2x2 log linear models, contingency tables, the Mantel-Haenszel test, stratified analysis, conditional independence, collapsibility and life tables.

**462. Quality Control and Industrial Statistics.** (3:3:2) F Prerequisite: Stat 361; 321 or 341. Recommended: Stat 337.
Intermediate concepts in process analysis, process control, and control chart procedures; Pareto diagrams, cause-effect diagrams; acceptance sampling.

**463. Operations Research.** (3:3:2) F Prerequisite: Math 343; Stat 321 or 341.
Methods of linear, goal, and dynamic programming; queuing theory and applications, network analysis and PERT-CPM, decision analysis, simulation.

**466. Introduction to Reliability.** (3:3:2) W Prerequisite: Stat 361; 321 or 341; Math 113 or equivalent.
Mathematics, distributions, management, and maintenance of basic reliability concepts; collection and analysis of test data; fault tree analysis; applying reliability in various areas.

**470. Actuarial Practice.** (1:1:0 ea.) F Prerequisite: Math 113, Stat 336.
Application of statistical and mathematical methods to current insurance problems; projects in life table construction, premium estimation, rating and product design.

**471. Actuarial Mathematics.** (1:2:0) F Prerequisite: Math 343, 344, or concurrent registration.
Applying mathematical techniques to problems in actuarial science. Prepares for the SOA 100 exam.

**472. Actuarial Problems.** (1:2:0) W Prerequisite: Stat 520, 521, or concurrent registration.
Applying mathematical statistics in actuarial science. Prepares for the SOA 110 exam.

**474. Life Contingencies 1.** (3:3:0) F Prerequisite: Math 344; Stat 342 or 520; concurrent registration in Stat 520.
Theory of interest, annuities, amortization, life tables, life annuities. Prepares for the SOA 140 exam.

**475. Life Contingencies 2.** (3:3:0) W Prerequisite: Stat 474.
Contingent annuities, joint annuities, insurance, calculating premiums and reserves. Prepares for the SOA 150 exam.

**490R. Special Topics in Statistics.** (1–3:Arr.:0 ea.) On dem. Prerequisite: instructor's consent.

**496R. Cooperative Education/Internship: Statistics.** (1-9:Arr:Arr ea.) F, W, Sp, Su Prerequisite: department coordinator's consent.
On-the-job experience or internships for undergraduates. Report is required.

**497R. Introduction to Statistical Research.** (1–3:0:6 ea.) F, W, Sp, Su Prerequisite: department chair's consent.
Review of current literature and survey of present status of significant statistical research; collaborative work between student and faculty.

**499R. Honors Thesis.** (1–6:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's consent.

## 500-Level Graduate Courses (available to advanced undergraduates)

**501. Statistics for Research Workers 1.** (5:5:0) F, W, Sp Prerequisite: Math 110 or equivalent. Recommended: concurrent registration in Stat 211, 322.
Probability, estimation, tests of hypotheses, regression, analysis of variance, and nonparametric methods. For natural or social science students.

**502. Statistics for Research Workers 2.** (5:5:0) W, Su Prerequisite: Stat 501 or equivalent.
Analysis of covariance, multiple regression, linear models, design of experiments, and sampling. For natural or social science students.

**520. Statistical Theory 1.** (3:3:0) F Prerequisite: Math 344, Stat 341, 342, and instructor's consent.
Axiomatic probability theory for discrete and continuous random variables; moment-generating functions; conditional probability; stochastic independence; transformations; limiting distributions; stochastic convergence, central limit theorem.

**521. Statistical Theory 2.** (3:3:0) W Prerequisite: Stat 520.
Sufficiency and completeness; point and interval estimation; hypothesis testing; Cramer-Rao inequality; some asymptotic results; introduction to Bayesian methods.

**522. Theory of Linear Models.** (3:3:0) F Prerequisite: Stat 322, 520, Math 343.
Linear hypotheses, with application to regression and design.

**531. Experimental Design.** (3:3:0) W Prerequisite: Stat 337.
Power for basic designs, hierarchical designs, change-over designs, confounding in symmetric and asymmetric designs, incomplete block designs, bioassay, and response surface designs.

**532. Quality Improvement for Engineering.** (3:3:2) W Prerequisite: Stat 361, Math 113.
Selected topics in statistical theory, analysis of variance, simple and multiple regression, response surface design and analysis, multilevel experimental designs, blocking designs, confounding.

**534. Sampling.** (3:3:2) F even yr. Prerequisite: Stat 334; 321 or 341 or instructor's consent.
Estimation in systematic, simple random, stratified, cluster, and PPS sampling and mixtures of these; ratio estimation, sample size determination and principles of sample allocation.

**536. Regression Analysis.** (3:3:0) F Prerequisite: Stat 322; 336 or 501.
Multiple regression, introduction to model building and nonlinear estimation, examination of residuals, stepwise regression, subset selection procedures, biased estimation, and model validation.

**537. Categorical Data Analysis.** (3:3:1) W on dem. Prerequisite: Stat 337 or 502; 536.
Analysis of multiway contingency tables with linear and log-linear models using maximum likelihood and minimum modified chi-square estimates as appropriate.

**541. Advanced Probability.** (3:3:0) W on dem. Prerequisite: Stat 520 or instructor's consent.
Stochastic processes, Markov chains, generating functions, birth-death processes, random walks, the gambler's ruin problem, advanced combinatorial methods.

**545. (Stat-ECEn 510) Stochastic Processes.** (3:3:0) On dem. Prerequisite: Stat 421 or 520.
Review of elementary probability: expectation, characteristic functions, limit theorems. Introductory random processes: definitions and properties, covariance and spectral density, time average, stationarity, ergodicity, linear system relations, mean square estimation, Markov processes.

**552. Statistical Methods in Education 1.** (3:3:0) F, W, Su Prerequisite: Math 100 or equivalent.
Measures of central tendency, variability; correlation; simple linear regression; introduction to hypothesis testing and estimation. Computer applications. For graduate majors in education and related fields.

**554. Statistical Methods in Education 2.** (3:3:0) Su Prerequisite: Stat 552.
Applications of analysis of variance and covariance, multiple regression, correlation, and nonparametric methods. Introduction to experimental design. For graduate majors in education and related fields.

**563. Advanced Operations Research.** (3:3:0) W on dem. Prerequisite: Stat 463, 520.
Stochastic simulations; integer, nonlinear, and stochastic programming; developments in inventory theory; Markovian decision processes; insurance risks.

**591R. Graduate Seminar in Statistics.** (0:1:0 ea.) F, W

**592. Statistical Consulting.** (1:1:0) W

**599R. Cooperative Education: Statistics.** (1–9:0:Arr. ea.) F, W, Sp, Su Prerequisite: departmental consent.
On-the-job experience. Report required.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Statistics Faculty

**Professors**

Bryce, Gale Rex (1972) AA, Phoenix Coll., 1963; BS, Arizona State U., 1967; MS, Brigham Young U., 1970; PhD, U. of Kentucky, 1974.

Christensen, Howard B. (1967) BS, Brigham Young U., 1964; MS, PhD, North Carolina State U., 1966, 1975.

Collings, Bruce J. (1988) BS, MS, MS, Brigham Young U., 1973, 1975, 1977; MS, PhD, U. of North Carolina, 1980, 1981.

Hendrix, Leland J. (1967) BS, MA, PhD, Brigham Young U., 1960, 1966, 1967.

Hilton, H. Gill (1962) BS, Brigham Young U., 1957; MS,PhD, North Carolina State U., 1960, 1962.

Rencher, Alvin C. (1963) BS, MA, Brigham Young U., 1959, 1962; PhD, Virginia Polytechnic Inst., 1968.

Scott, Del T. (1977) BS, MS, Brigham Young U., 1970, 1973; PhD, Pennsylvania State U., 1977.

Tolley, H. Dennis (1983) BS, Brigham Young U., 1970; PhD, U. of North Carolina, 1974; ASA, Society of Actuaries, 1981.

**Associate Professors**

Beus, Gary B. (1967) BA, Brigham Young U., 1962; MS, PhD, Virginia Polytechnic Inst., 1965, 1968.

Lawson, John S. (1986) AA, Los Angeles Valley Coll., 1967; BS, MS, Brigham Young U., 1969, 1971; MS, Rutgers U., 1976; PhD, Polytechnic Inst. of New York, 1983.

**Assistant Professors**

Fellingham, Gilbert W. (1990) BA, Occidental Coll., 1971; MS, MS, Brigham Young U., 1976, 1977; MS, PhD, U. of Washington, 1988, 1990.

Grimshaw, Scott D. (1993) BS, Southern Utah State Coll., 1983; MS, PhD, Texas A&M U., 1985, 1989.

Madrigal, Jose L. (1991) BS, Leon State U., 1976; MS, Postgraduate Coll., 1981; DPhil, U. of Oxford, England, 1985.

Schaalje, G. Bruce (1992) BS, MS, Brigham Young U., 1977, 1979; MS, U. of Washington, 1981; PhD, North Carolina State U., 1988.

Whiting, David G. (1995) BA, MS, Brigham Young U., 1988, 1990; PhD, Texas A&M U., 1995.

**Visiting Professor**

Branstetter, R. Deane (1986) BS, Northeast Missouri State U., 1940; MS, State U. of Iowa, 1948; PhD, Iowa State U., 1953.

**Lecturer**

Collings, Patti Burton (1988) BS, MS, Brigham Young U., 1971, 1977.

**Adjunct Professors**

Booth, Gordon D. (1981) BA, BS, Brigham Young U., 1960, 1963; MS, PhD, Iowa State U., 1967, 1973.

Hilton, John L. (1988) AB, Brigham Young U., 1952.

**Emeriti**

Adams, L. LaMar (1970) BS, MEd, PhD, Brigham Young U., 1961, 1965, 1972.

Campbell, L. Howard (1962) BS, MBA, U. of Utah, 1955, 1957.

Carter, Melvin W. (1961) BS, Arizona State Coll., 1953; MS, PhD, North Carolina State U., 1954, 1956.

Nielson, Howard C. (1957) BS, U. of Utah, 1947; MS, U. of Oregon, 1949; MBA, PhD, Stanford U., 1956, 1957.

Richards, Dale O. (1963) BS, Utah State U., 1950; MS, PhD, Iowa State U. of Science and Technology, 1957, 1963.

# Student Development

David M. Sorenson, Chair
169 SWKT, PO Box 25548, (801) 378-6291

Open Major Advisement Center
151 SWKT, PO Box 25548, (801) 378-3826

## The Discipline

The Student Development Department provides course work designed to help students in the areas of intellectual/learning, career, and personal/social development.

The Career and Learning Information Center, 151 SWKT, contains detailed, current information about numerous occupations, college majors, educational programs, professional licensing requirements for various states, placement information about recent BYU graduates, and career skills information, such as job interviewing.

## Student Development (StDev)

### Undergraduate Courses

**110. Effective Study and Learning.** (2:2:0) F, W, Sp Su Independent Study also.

Learning to learn: motivation, time management, reading, listening, notetaking, test preparation, and memorizing; cognitive and ethical development in a learning environment.

**115. Life Planning and Decision Making.** (2:2:0) F, W, Sp, Su Independent Study also.

Individual development in life planning and decision making, emphasizing personal maturity, goal setting, and decision making abilities in areas of common concern to young adults.

**117. Career Exploration.** (2:2:0) F, W, Sp, Su Independent Study also.

Applying theories of individual, academic, and career development to the university student. Exploring university opportunities and college majors; graduation planning.

**120. Individual Development.** (2:2:0) F, W

Applying theories of young adult development in a self-assessment approach to achieving individual development in the life challenges facing college students.

**198R. Prelaw Seminar.** (1:1:0 ea.) F, W

Choices in majors and prelegal education; the work of lawyers, judges, and others in legal careers; role of law in our communities.

**214R. Special Topics in Student Development.** (1–3:1:0 ea.) On dem.

**317. Managing Career Transitions.** (2:2:0) F, W

Anticipating, preparing for, and managing critical transition from university to world of work. Theoretical conceptualizations of career development and practical strategies to facilitate job search/advancement process.

**358R. Student Leadership Development.** (1–3:2:2 ea.) F, W
Prerequisite: instructor's consent.

Analysis, synthesis, and integration of personal leadership experienced in an academic context. Successful leadership: decision making, communications, planning, team building, motivation, and interpersonal skills.

## Student Development Faculty

**Professors**

Heaps, Richard A. (1970) BS, Brigham Young U., 1966; MA, PhD, U. of Utah, 1968, 1970.
Herlin, Wayne R. (1964) BA, U. of Utah, 1953; MA, Stanford U., 1956; PhD, U. of Utah, 1963.
Sorenson, David M. (1969) BA, Brigham Young U., 1961; EdM, EdD, Harvard U., 1962, 1970.
Ward, G. Robert (1981) BS, MS, Utah State U., 1959, 1961; PhD, Michigan State U., 1965.

**Clinical Professors**

Bekker, Demoyne (1990) BA, MA, Brigham Young U., 1961, 1962; PhD, Ohio State U., 1968.
Isakson, Richard L. (1983) BA, Weber State U., 1970; MS, Bucknell U., 1971; PhD, Cornell U., 1975.
Johnson, Richard W. (1968) BS, Utah State U., 1961; MS, U. of Wisconsin, 1964; PhD, Brigham Young U., 1968.
MacArthur, James D. (1973) BA, MA, PhD, Brigham Young U., 1969, 1973, 1976.
Smart, David (1992) BA, Brigham Young U., 1964; MA, PhD, U. of Utah, 1967, 1969.
Tanner, Elvin (1970) BA, PhD, Brigham Young U., 1962, 1969; MSW, U. of Utah, 1964.

**Associate Professors**

Mouritsen, Maren M., Assistant Vice President and Dean of Student Life (1978) BS, Northwestern U., 1961; MS, PhD, Columbia U., 1968, 1978.
Winward, Edward (1959) BS, MS, Utah State U., 1959, 1960; PhD, U. of Missouri, 1966.

**Associate Clinical Professors**

Bell, Douglas J. (1972) BS, Brigham Young U., 1970; MBA, U. of Utah, 1971; PhD, Brigham Young U., 1984.
Booth, Eileen E. (1989) BS, MEd, PhD, Brigham Young U., 1979, 1984, 1989.
Gleave, Robert L. (1989) BS, MEd, PhD, Brigham Young U., 1975, 1976, 1981.
Maughan, Michael L. (1972) BS, MS, EdD, Utah State U., 1966, 1968, 1970.
Nielsen, Stevan L. (1988) BS, Brigham Young U., 1976; PhD, U. of Washington, 1984.
Orme, G. Craig (1983) BS, MS PhD, Utah State U., 1972, 1974, 1980.
Ruiz, Chris C. (1992) BA, California State U., 1960; MSW, U. of Southern California, 1963; PhD, Claremont Graduate School, 1973.
Shively, Ann Pye (1991) BMEd, Sam Houston State U., 1958; MEd, PhD, Texas A & M U., 1966, 1971.

**Assistant Clinical Professors**

Bennion, Lynne A. (1993) BS, Brigham Young U., 1981; MS, PhD, Purdue U., 1983, 1986.
Esplin, Patricia B. (1993) BS, Brigham Young U., 1966; MS, PhD, U. of Utah, 1976.
Hendricks, Kathleen S. (1996) BS, U. of Wisconsin, 1976; MS, Northern Illinois U., 1978; PhD, Brigham Young U., 1995.
Jackson, Aaron P. (1993) BS, MA, Brigham Young U., 1985, 1989; PhD, U. of Missouri, Columbia, 1993.
Scharman, Janet S. (1992) BA, MS, PhD, U. of Utah, 1970, 1990, 1992.
Smith, Steven A. (1992) BS, MEd, Brigham Young U., 1981; PhD, U. of Minnesota, 1988.
Williams, Marleen S. (1993) BS, PhD, Brigham Young U., 1987, 1993.
Worthen, Vaughn E. (1991) AA, Ricks College, 1980; BS, MEd, Brigham Young U., 1983, 1985; PhD, U. of Kansas, 1993.

# Study Abroad

See Jerusalem Center for Near Eastern Studies and David M. Kennedy Center for International Studies.

# Swedish

See Germanic and Slavic Languages.

# Technology Education and Construction Management

Garth A. Hill, Chair
230 SNLB, PO Box 28200, (801) 378-2021

College of Engineering and Technology Advisement Center
264 CB, PO Box 24101, (801) 378-4325

## Admission to Degree Program

All technology education degree programs are open enrollment. However, special limitations apply for teaching majors and construction management majors. Please see the college advisement center for specific details.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Construction Management
Emphasis (optional):
International
BS Technology Teacher Education
BS Industrial Education
Emphasis (optional):
International
BS Physical Plant Administration
Emphasis (optional):
International

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Technology Education

For more information see the 1996–97 BYU Graduate Catalog.

# *Construction Management*

## The Discipline

Construction management is a field where there are new problems to solve daily, and the challenge is always present to find a better way to build the cities, offices, homes, highways, and multiple projects that will meet worldwide demands.

BYU's construction management curriculum covers five essential areas: construction technology, architecture, engineering, business management, and construction management.

## Career Opportunities

The program has had 100 percent placement within the construction industry, with salaries typically near the top range of BYU graduates. Graduates find employment in a variety of construction-industry-related positions. Typical position titles are superintendent, estimator, scheduler, field engineer, inspector, general contractor, sales representative, insurance and bonding agent, safety engineer, project manager, owner's representative, financial loan officer, etc.

Alumni find they are qualified for employment in all types of construction. It is a broad-based program that provides the training and experience needed for several occupational opportunities.

This major is also excellent preparation for students desiring further study in architecture, business management, or construction law.

## General Information

### High School Preparation

Recommended high school courses include drafting, algebra, trigonometry, calculus, physics, and carpentry, along with the other courses necessary for admittance to BYU.

### Prearchitecture Program

Brigham Young University does not have an architecture program, but construction management provides an excellent preparatory program for architecture. Consult with department faculty concerning a prearchitecture program.

## BS Construction Management (99 hours*)

**Major Requirements**

1. Complete the following preprofessional courses:
   CM 155, 305.
   Engl 115.
   Math 112.
   Phscs 105.
   TecE 270.
2. Complete the following professional courses:
   CM 199R (1 hour), 210, 211, 217, 218, 241, 311, 345, 385, 408, 411, 412, 415, 417, 426, 445.
   CEEn 103, 113, 302.
3. Complete four registrations of the following:
   TecE 291R.
4. Complete three registrations of the following:
   TecE 391R.
5. Complete one registration of the following:
   CM 491R.
6. Complete the following supporting courses:
   Acc 200, 341.
   BusM 300, 340.
   Comms 150.
   Econ 110.
   Geol 330.
   OrgB 320.
   Stat 221.
   VADes 102.
7. Select one course from the following:
   MCom 320.
   Engl 316.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (106.5–108.5 hours*)

**Major Requirements**

1. Complete the requirements for the preceding construction management program as outlined (with the exception of Econ 110).
2. Complete the following additional courses:
   BusM 430.
   EngT 200, 498.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. After consulting with a faculty advisor, select a foreign literature course or a classical civilization course. **Or** select one course from the following:
   Art 210.
   FnArt 270.
   Hist 312.
   Hum 240, 242.
   Music 203.
   Fren/Ital 217.
5. An international "live-in" experience is required. This requirement may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center and college personnel, or (3) a prior living experience, such as a foreign mission.

**Recommended**

A foreign language proficiency is strongly recommended.

*Hours include courses that may fulfill GE or university requirements.

## Construction Management (CM)

### Undergraduate Courses

**155. Residential Drafting and Planning.** (3:2:4) F, W
Development of residential plans; floor, foundation, plot, elevations, sections, and details. Introduction to architectural CAD. Fee.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**210. Framing Methods.** (3:2:4) F, W
Conversion of a framing plan to an actual building. Residential plan reading, estimating materials and manpower, framing schedule, and quality assurance. Fee.

**211. Finishing Methods in Construction.** (2:2:2) F, W
Managing carpentry finish work; application of interior and exterior trim. Recognizing, specifying, and requiring quality workmanship. Fee.

**217. Concrete and Masonry Methods.** (2:1:3) F, W
Quality concrete and masonry, including admixtures and proper techniques of placing, curing, and testing concrete. Brick and concrete block construction. Fee.

**218. Plumbing Systems.** (2:2:2) F, W
Basic plumbing materials, installation, applications; understanding and effectively managing the plumbing trade. Fee.

**241. Electrical Systems in Construction.** (2:2:2) F, W
Electrical circuits in the construction industry. Fee.

**305. Construction Documents.** (3:2:3) F, W Prerequisite: CM 155, 210.
How and why specific types of contract documents and specifications are compiled for a project; reading and interpreting complex construction documents. Fee.

**311. Quantity Takeoffs.** (2:1.5:1.5) F, W Prerequisite: CM 211, 217, 305, TecE 270.
Estimating plans and specifications to determine material quantities, labor, overhead, and profit on residential and commercial structures.

**345. Construction Safety.** (2:2:0) F
Safety requirements and responsibilities on the construction site; determining costs and impact of construction accidents; developing a construction site safety program.

**385. Construction Contracts and Law.** (2:2:0) F Prerequisite: Acc 341.
Construction contracts and law. Contractual obligations defined, including agency, contract interpretation, performance, termination, judicial remedy, and arbitration.

**408. HVAC Principles and Energy Efficiency.** (3:3:0) W Prerequisite: CM 210.
Heat loss and gain calculations, payback analysis, energy-efficient construction techniques, solar-assisted heating systems, and HVAC principles. Fee.

**411. Estimating and Bidding.** (2:1.5:1.5) F, W Prerequisite: CM 311 or instructor's consent.
Competitive bidding strategies and bid analysis in construction. Computerized estimating systems. Fee.

**412. Construction Scheduling and Cost Control.** (3:2:3) F, W Prerequisite: CM 311 or instructor's consent.
Planning, scheduling, and monitoring construction projects, including development of critical path networks (CPM and PERT), Gannt bar charts, construction cost control, and reporting practices. Fee.

**415. Construction Project Management and Control.** (3:3:0) F Prerequisite: CM 412 or concurrent registration.
Managing and controlling construction projects. Planning, startup procedures, inspections, progress measurements, field reports, change order and submittal processing, equipment management, and project closeout.

**417. Construction Building Codes and Inspection.** (2:2:0) F Prerequisite: CM 311 or instructor's consent.
Regulations placed on construction and use of buildings due to building codes and zoning ordinances. Inspection procedures used to enforce such codes.

**426. Real Estate Principles and Development.** (4:4:0) F Prerequisite: BusM 300 and instructor's consent.
Principles of real estate investments, emphasizing mortgage instruments and development of property from raw land to residential and commercial properties. Fee.

**445. Construction Company Operations and Management.** (2:2:0) W Prerequisite: CM 415, BusM 300.
Organizing, controlling and directing operations of construction companies; cash flow analysis, purchasing and cost control, company planning and risk management.

**491R. Senior Seminar.** (0.5:1:0 ea.) F
Developing best employment opportunities and strategy; interviewing, sales negotiations, resumé and letter writing, and salary negotiations. College Lecture attendance required.

**494R. Special Problems in Construction Management.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent. Fee.

# Technology Education

## BS Technology Teacher Education (91–92 hours,* including certification hours)

### The Discipline

The study of technology education prepares students to teach drafting, electronics, graphic arts, woodwork, metalwork, auto mechanics, and technology at the secondary and the postsecondary levels. The curriculum covers innovative technologies such as lasers, fiber optics, robotics, fluid power, electronic publishing, video production, multimedia production, and a variety of other applications. The dramatic pace of technological innovation makes this a vital major—one that aims to improve the rising generation's technological literacy and increase their awareness of technology's impacts upon individuals, society, and the environment. An ever-evolving adaptation to advancements adequately prepares graduates for technology careers.

### Career Opportunities

The program prepares industrial/technology/vocational teachers for junior high/middle schools, high schools, and post-high-school programs. Additional education is required to prepare for teacher education in a college or university. Some graduates work for innovators and suppliers of technology-related equipment. The department continually has many more requests for teachers than available graduates.

### Major Requirements

1. Complete the following:
   TecE 120, 140, 149, 150, 200, 209, 229, 240, 250.
   CM 155.
2. After consulting with a faculty advisor, complete 12 hours from the following technical depth courses:
   CM 210, 211, 217, 218, 241, 305, 311, 408.
   EET 103.
   MET 230, 331, 335.
   TecE 199R, 205, 230, 251, 281, 300, 301, 329, 354, 386, 387, 388, 400, 450, 453, 455, 489, 490R.

   **Note:** Junior high teachers must select a minimum of one class from each of four clusters; senior high teachers must select from two cluster areas; senior high technology and industrial arts teachers must have a minimum of 15 hours in one cluster area plus two years of industrial trade experience. Seek advisement early in the program.
3. Complete four registrations of the following:
   TecE 291R.
4. Complete three registrations of the following:
   TecE 391R.
5. Complete one registration of the following:
   TecE 491R.
6. Complete the following:
   EngT 200.
   Math 111.
   TecE 270.
7. Select one course from the following:
   AgHrt 214.
   Botny 250.
   Phscs 105.
   Zool 150.
8. Complete the following:
   TecE 325, 340, 377, 405, 470, 477.
9. Complete the Professional Education Component (26–27 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BS Industrial Education (94–95 hours*)

### The Discipline

Technical training in the graphic arts is combined with business management to prepare students to be competent and ethical managers in the printing industry.

### Career Opportunities

This program prepares applicants in printing technologies, business, entrepreneurship, and management for various types of printing facilities, related services, and trade shops.

### Major Requirements

1. Complete the following technical courses:
   Geog 412.
   TecE 250, 251, 354, 450, 453, 490R (3 hours).
   VADes 270.
2. Complete 14 hours from the following technical courses:
   MeEn 170.
   TecE 150, 199R, 209.
   VADes 245.
   VAStu 106, 109, 206R, 209, 353R.

3. Complete the following management courses:
   Acc 200.
   BusM 300, 340.
   OrgB 327.
   TecE 455.
4. Complete 9 hours from the following management courses:
   Acc 341.
   BusM 381R.
   Comms 101, 230, 307.
   ManEc 300, 301, 475.
   OrgB 320 or 321 (not both).
   Stat 221.
5. Complete the following supporting courses:
   CS 103.
   Econ 110.
   Math 111.
   Phscs 105.
   StDev 317.
   TecE 270.
6. Select one course from the following:
   Chem 101, 105.
7. Select one course from the following:
   EngT 200.
   Hist 120.
8. Complete four registrations of the following:
   TecE 291R.
9. Complete four registrations of the following:
   TecE 391R.
10. After consulting with a faculty advisor, select 7 elective hours.

*Hours include courses that may fulfill GE or university requirements.

## BS Facilities Management (88 hours*)

**The Discipline**

This program prepares students to be part of the administrative/supervisory team in the increasingly complex world of facilities management.

**Career Opportunities**

Employment can be found with colleges and universities, hospitals and health care centers, governmental agencies, recreational complexes, airports, and large industrial plants. Responsibilities would include supervising the planning, construction, and maintenance of buildings and grounds, space utilization, strategic planning, etc.

**Major Requirements**

1. Complete the following:
   CM 155, 305, 311, 385, 408, 412.
   Math 110.
   Stat 221.
   TecE 270.
2. Complete 2 hours of the following:
   TecE 199R.
3. Complete 3 hours of the following:
   CM 494R.
4. Complete four registrations of the following:
   TecE 291R.
5. Complete four registrations of the following:
   TecE 391R.
6. Complete the following:
   Acc 200, 341.
   AgHrt 103.
   BusM 300, 340, 360, 413.
   Chem 101.
   Comms 150.
   Econ 110.
   OrgB 320, 327, 347.
   RMYL 483.
   StDev 317.
   VADes 102.
7. Select one course from the following:
   BusM 380R, 381R, 382R.
8. After consulting with a faculty advisor, select 10 hours of electives.

*Hours include courses that may fulfill GE or university requirements.

## Emphasis (optional): International (95.5–97.5 hours*)

**Major Requirements**

1. Complete the requirements for the preceding facilities management program as outlined (with the exception of Econ 110).
2. Complete the following additional courses:
   EngT 200, 498.
   BusM 430.
3. Select one course from the following:
   RelC 344, 351, 355, 356.
4. After consulting with a faculty advisor, select a foreign literature course or a classical civilization course. **Or** select one course from the following:
   FnArt 270.
   Fren/Ital 217.
   Hist 312.
   Hum 240, 242.
   Music 203.
   VAHis 260.
5. An international "live-in" experience is required. This requirement may be satisfied by (1) a semester or term work experience in a foreign country, (2) a semester or term Study Abroad program approved by the David M. Kennedy Center and college personnel, or (3) a prior living experience, such as a foreign mission.

**Recommended**

A foreign language proficiency is strongly recommended.

*Hours include courses that may fulfill GE or university requirements.

## Technology Education (TecE)

### Undergraduate Courses

**120. Manufacturing and Construction Systems.** (3:2:4) F
Methods for teaching aspects of modern manufacturing and construction systems, including materials, processes, management, and impacts. Fee.

**140. Power/Energy Systems.** (2:2:4) W
Energy systems including history, measurement, utilization, conversion, transmission and storage, and applications to industry. Fee.

**149. General Automotive.** (2:1:3) F, W, Sp, Su
Directed study toward automotive maintenance, service, and minor repair. Fee.

**150. Communication Systems.** (3:2:4) F
Overview of print communications industries of drafting and graphic arts and transfer of information to extend human potential. Fee.

**160. Recreational Crafts.** (2:1:3) F
Traditional and contemporary crafts projects emphasizing design and craftsmanship. Medium is primarily wood in turning, carving, and sculpting; others optional. For hobbyists, teachers, recreational specialists. Fee.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: department chair's and cooperative education coordinator's consent.
Work experience evaluated by supervisor and posted on student's transcript.

**200. Woodwork Fundamentals.** (3:2:4) F, W
Care and use of hand and machine woodworking tools. Includes design, detailed drawings, cost estimates, and construction of solid wood furniture. Fee.

**205. Finishing Technology.** (2:1:3) F, W
Preparation, selection, and application of finishing materials and analysis of coating problems. Fee.

**209. Basic Electricity.** (3:2:4) F, W Independent Study also.
Theory of electricity and electronics; magnetism, DC/AC circuits, semiconductors, and introduction to digital processes for automated systems. Technical reports of lab activities. Fee.

**229. Metalwork Fundamentals.** (3:2:4) W
Metalworking processes, including basic metal forming, cutting, and welding. Fee.

**230. Introduction to Manufacturing Processes.** (3:2:4) F, W
Operation and setup of machine shop equipment and tools, emphasizing machine lathe and milling machines.

**240. Introductory Plastics.** (2:1:3) F
Overview of the plastics industry, ecological concern, physical properties of plastic materials, basic polymer chemistry. Lab experiences with molding practices. Fee.

**250. Graphic Arts.** (3:2:4) F, W, Sp
Processes and procedures of graphic arts, with an overview of the printing and publishing industries. Fee.

**251. Photo-Offset Lithography.** (3:2:4) Prerequisite: TecE 250.
Processes and procedures of printing by photo-offset lithography. Fee.

**260. Advanced Crafts.** (3:2:4) F, W
Project emphasizing design and craftsmanship. Major areas include woodturning, carving, and sculpture, with options in leather, plastics, clay, and other materials. Fee.

**270. Computer Applications for Industrial Education.** (3:3:0) F, W, Sp, Su
Introduction to computer applications and programming for education and industrial management; word processing, electronic spread sheets, database management, and limited BASIC programming. Fee.

**281. Introduction to Automobile Tune-Up.** (3:2:4) F
Introduction to technical systems used in automotive engines to include sensors and digital processing of automated systems. Diagnosis to include use of instrumentation. Fee.

**291R. Undergraduate Seminar.** (0:1:0 ea.) F, W
Required each semester for undergraduate majors not enrolled in TecE 391R or 491R. College Lecture attendance required. Separate program sections.

**300. Advanced Wood Projects.** (3:2:4) F Prerequisite: TecE 200.
Application of industrial wood processes. Processing green wood, wood turning, veneering, laminating, small wood originals. Fee.

**301. Cabinetmaking and Millworking.** (3:1:5) W Prerequisite: TecE 200.
Selection, design, and construction of modular and custom cabinets. Fee.

**315. The World of Construction.** (2:1:3) F, W
Developing skills and knowledge necessary to teach basic concepts and skills of the construction industry. Fee.

**319. Upholstery.** (2:1:3) F, W
Experience with typical upholstery systems. Fee.

**325. The World of Manufacturing.** (2:1:3) W
Developing skills and knowledge necessary to teach basic concepts and skills of manufacturing industries. Introduction to CAD, CAM, CNC, robotics, and microprocessor interfacing. Fee.

**329. Advanced Metal Machining.** (3:2:4) W Prerequisite: TecE 130.
Development of operational skills and precision with machining equipment. Introduction to NC and EDM equipment. Fee.

**340. Principles of Technology.** (3:2:4) F Prerequisite: TecE 140, Phscs 105.
Activities and experiments in advanced applications and utilization of energy; applications of scientific and mathematic concepts.

**354. Screen, Flexography, and Gravure Printing.** (3:2:4) W Prerequisite: TecE 250.
Processes and procedures of printing by screen flexography and gravure printing. Fee.

**360. Art Metal Crafts.** (3:2:4) F, W
Design and development of craft projects using metal and ceramics. Operation includes spinning, casting, shaping, and etching. Fee.

**377. Instructional Methods for Technology Education.** (2:2:0) W Prerequisite: ScEd 276R.
Teaching methods and instructional strategies, with particular emphasis on activity-oriented approaches.

**386. Automotive Engines.** (3:2:4) F, W, Sp
Care and maintenance, including overhaul and rebuilding procedures. Fee.

**387. Steering and Braking Mechanisms.** (3:2:4) F
Theory and application of the principles of alignment, brakes, steering, and suspension systems on the modern automobile. Fee.

**388. Power Transmission.** (3:2:4) W
Theory and application of the principles of standard transmissions, differentials, and automatic transmissions (light duty). Fee.

**391R. Seminar.** (0.5:1:0 ea.) F, W
Required three semesters at junior and senior level. Department seminar and College Lecture attendance required. Separate program sections.

**400. Advanced Furniture Construction.** (3:2:4) W Prerequisite: TecE 200.
Advanced woodwork and operations in furniture construction. Drawings, specifications, and cost estimates required for all projects. Fee.

**405. Shop Maintenance.** (1:1:3) F
Care and maintenance of tools and machines. Fee.

**450. Electronic Publishing.** (3:2:3) F
Typography, design, layout, typesetting, paste-up, and desktop publishing for print communications. Fee.

**453. Graphic Arts Photography.** (3:2:3) W
Photographic theory and applications used in the printing industry; including line, halftone, and color separation. Fee.

**455. Printing Estimating.** (3:3:0) W Prerequisite: TecE 270.
Cost estimating and scheduling of printing production using price catalogs, budgeted hourly wage systems, and computer estimating. Fee.

**470. Shop Organization and Management.** (2:2:4) W Prerequisite: ScEd 476R.
Organizational management of industrial education labs, including unit, general, and multiple activity types.

**477. Instructional Materials for Industrial Education.** (3:2:4) W Prerequisite: ScEd 476R.
Developing instructional packages including teaching aids, career modules, projects, exercises correlated with practical teaching experiences. Designed to span all educational levels. Fee.

**489. Power Tune-up.** (2:1:4) W Prerequisite: TecE 389.
Theory and application of balancing the ignition and fuel systems to decrease emissions and improve performance of automotive engines using a chassis dynamometer. Fee.

**490R. Special Problems in Industrial Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: program supervisor's consent.
Individual study in special areas of interest (3-hour maximum for any one area). Fee.

**491R. Senior Seminar.** (0.5:1:0 ea.) W
Developing leadership training skills and professional growth and development. Required of seniors. College Lecture attendance required.

## 500-Level Graduate Courses (available to advanced undergraduates)

**505. Technology for the Elementary School.** (2:2:0) Sp, Su
Basic concepts and activities needed to prepare elementary students to cope with their technological society. Fee.

**535. Industrial / Vocational Safety Program Development.** (2:2:0) F, Sp, Su
Identifying and implementing programs for safety and facilities management that comply with state and national legislation. Fee.

**593R. Workshop in Industrial Technology Education.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su
Reviewing and participating in current industrial and technological advances. Limited to 3 credit hours. Fee.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Technology Education and Construction Management Faculty

**Professors**
Grover, Jerry D. (1968) BS, MEd, Utah State U., 1956, 1961; EdD, Brigham Young U., 1968.

**Associate Professors**
Bashford, Howard H. (1995) BS, MS, U. of Wyoming, 1967, 1969; PhD, Brigham Young U., 1984.
Christensen, Kip W. (1988) BS, MS, Brigham Young U., 1980, 1982; PhD, Colorado State U., 1991.
Gonzales, Ronald F. (1977) BA, MA, California State U., Los Angeles, 1972, 1975; PhD, Purdue U., 1982.
Hill, Garth A. (1972) BS, MS, Brigham Young U., 1959, 1969; PhD, Colorado State U., 1979.
Martin, Loren (1982) BS, Brigham Young U., 1965; MS, Stout State U., 1966; EdD, Utah State U., 1973.
Newitt, Jay S. (1976) BS, MIE, Brigham Young U., 1969, 1972; PhD, Colorado State U., 1980.
Rogers, Leon R. (1981) BS, Utah State U., 1978; BS, Weber State U., 1978; MS, Colorado State U., 1981; PhD, Texas A&M U., 1989.

**Instructors**
Christofferson, Jay P. (1992) BS, MS, Brigham Young U., 1980, 1992.
Faucett, Steven G. (1995) BS, ME, Brigham Young U., 1979, 1982.
Hutchings, D. Mark (1992) BA, Brigham Young U., 1977; MS, U. of Denver, 1992.
Shumway, Steven L. (1993) BS, Brigham Young U., 1987; MS, Utah State U., 1993.

**Emeriti**
Gheen, W. Lloyd (1978) BS, Brigham Young U., 1963; MEd, EdD, Texas A&M U., 1969, 1970.
Hinckley, Edwin C. (1963) BS, MS, Oregon State U., 1950, 1956; EdD, Colorado State Coll., 1963.
Jenkins, Ronda H. (1949) BS, MA, Brigham Young U., 1955, 1966.
McArthur, Ross J. (1956) AS, Dixie Coll., 1943; BS, MS, Utah State U., 1949, 1953; EdD, U. of Missouri, Columbia, 1955.
McKell, William E. (1970) BS, Utah State U., 1948; MEd, Texas A&M U., 1951; EdD, Utah State U., 1970.
McKinnon, Max E. (1957) BS, MS, Utah State U.,1949, 1954.
Nish, Dale L. (1967) BS, MS, Brigham Young U., 1957, 1958; EdD, Washington State U., 1967.

# Theatre and Film

Eric Fielding, Chair
D-581 HFAC, PO Box 26405, (801) 378-7471

College of Fine Arts and Communications Advisement Center
D-444 HFAC, PO Box 26333, (801) 378-3537

## Admission to Degree Program

The degree programs in the Department of Theatre and Film carry special enrollment limitations. Please see the college advisement center for specific details.

## The Discipline

The study of theatre and film is truly a study of humankind and our attitudes toward ourselves. Since art is a mirror of human society, the specific disciplines of theatre and film cover our innermost attempts at comprehending our existence through all time.

The BYU theatre program is designed to educate the student in a basic foundation of dramatic literature, theatre history, performance skills as both actor and director, and techniques in all areas of theatre design technology and production.

The BYU film program is designed to educate the student in a basic foundation of film history, theory, and criticism along with the fundamentals of filmmaking art and technology.

## Career Opportunities

The theatre program provides training and experience in all areas of theatre, from performing to playwriting, from teaching to technical production.

The film program provides training and experience in film writing, directing, and producing for both documentary and narrative film.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

#### Languages of Learning

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

#### Liberal Arts Core

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

#### Arts and Sciences Electives

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

| | |
|---|---|
| BA | Theatre Arts |
| | Emphasis (optional): |
| | Acting |
| BA | Theatre Arts Education |
| BA | Film |
| BFA | Music Dance Theatre |
| Minors | Film |
| | Liberal Arts Theatre |
| | Theatre Arts Education |

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

| | |
|---|---|
| MA | Theatre and Film |
| MFA | Theatre Design and Technology |
| PhD | Theatre and Film |

For more information see the 1996–97 BYU Graduate Catalog.

## BA Theatre Arts (59 hours*)

This liberal arts degree prepares students for basic work in the field and provides excellent preprofessional preparation for graduate work in child drama, acting, directing, playwriting, theatre design and technology, and theatre history, theory, and criticism.

### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following core requirements before the junior year:
   ThF 116, 117, 121, 123, 127R, 140, 141, 143R, 200, 201, 220, 361, 461.
3. Select 31 elective hours from other theatre and film courses.

**Note:** Although granted a general degree in theatre, students may emphasize selected areas in their last two years of

undergraduate work (approved course list available in the advisement center).

*Hours include courses that may fulfill GE or university requirements.

## BA Theatre Arts: Acting Emphasis (61 hours*)

This liberal arts degree was developed for students who are strongly considering acting as a career. It is focused to better prepare graduates to compete with other candidates for professional acting schools or graduate work.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Those considering the program must pass a preliminary audition during the second semester of the first year and a final acceptance audition during the second semester of the second year. ThF 121 and 123 are prerequisite to the audition.
3. Proficiencies: For advising purposes all students will be required to complete an audition proficiency at the end of each semester relative to areas of strength and of weakness and ways to correct them.
4. Complete the following core requirements before the junior year:
   ThF 116, 117, 121, 123, 127R, 140, 141, 143R, 200, 201, 220.
5. Complete the following:
   ThF 122, 124R, 322, 323R, 324R, 333, 361, 423R, 424R, 522R, 524R.
6. Complete the following:
   Dance 130, 134R, 240R.
   PE 126.
   Music 111.
7. Select 5 elective hours from at least two different courses:
   ThF 325R, 523R, 540R, 552R, 579R.

*Hours include courses that may fulfill GE or university requirements.

## BA Theatre Arts Education (71–72 hours,* including certification hours)

This professional degree prepares students to teach theatre in secondary schools.

**Major Requirements**

1. No D credit is allowed in major courses.
2. A teaching minor is not required for certification. However, it is strongly recommended.
3. Complete the following core requirements before the junior year:
   ThF 116, 117, 121, 123, 127R, 140, 141, 142, 143R, 200, 201, 220.
4. Complete the following:
   ThF 261, 325R, 361, 377, 461, 552R.
5. Select two courses from the following:
   ThF 340, 341, 343R.
6. Complete the Professional Education Component (27–28 hours): see the Secondary Education section of this catalog for certification requirements.

*Hours include courses that may fulfill GE or university requirements.

## BA Film (63 hours*)

This liberal arts degree offers a balance between cinematic studies and practical production experiences. Admittance is by application only. See the college advisement center.

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following prerequisite core requirements:
   ThF 117, 187, 199R (1 hour).
3. Complete the following film core requirements:
   ThF 202, 203, 280, 285, 381, 385, 487R, 489R, 587R.
4. Complete 1 hour of the following:
   ThF 287R.
5. After consulting with a faculty advisor, complete 29 hours in an area of emphasis in critical studies, directing/narrative, documentary filmmaking, producing, or screenwriting. At least 18 of these hours must be upper-division course work.

* Hours include courses that may fulfill GE or university requirements.

## BFA Music Dance Theatre (77–78 hours*)

The BFA in music dance theatre is an interdisciplinary degree offered by the College of Fine Arts and Communications through the cooperative involvement of its Department of Music and Department of Theatre and Film and the College of Physical Education's Department of Dance.

**Major Requirements**

1. Apply and audition for acceptance into the program during the first semester of registration.
2. Pass a proficiency examination in each of the three areas at the end of each semester.
3. Complete at least 40 hours in residence at BYU.
4. Any grade below C– in major courses is not acceptable for graduation. Dance technique courses require a grade of B– for advancement to the next level.
5. Complete the following:
   Music 113, 161, 261, 290.
6. Complete 4 hours of the following:
   Music 260R.
7. Complete 6 hours of the following:
   Music 360R.
8. Complete the following:
   Dance 131, 134R, 135, 231, 235, 241R, 242, 290, 291R, 331, 361, 363, 390R.
9. Complete the following:
   ThF 121, 122, 123, 124R, 127R, 323R, 361, 522R.
10. Select one course from the following:
    ThF 324R, 423R, 424R, 523R, 524R.
11. Complete the following MDT Seminar courses:
    Music 228.
    Dance 228.
    ThF 228.

12. Complete the following History of Music Dance Theatre courses:
    Music 300.
    Dance 300.
    ThF 300.
13. Complete the following Senior Performance Project courses:
    Music 426R.
    Dance 426R.
    ThF 426R.
14. Select 2 hours from the following (on-campus performance experience):
    Music 319R.
    Dance 229R, 429R.
    ThF 240R, 540R.
15. Select 1 hour from the following (off-campus experience):
    Music 399R.
    Dance 399R.
    ThF 399R.
16. Complete 4.5 hours of electives in music, dance, or theatre courses.

*Hours include courses that may fulfill GE or university requirements.

## Minor Film (16 hours*)

This minor is an introduction to the fundamentals of film history/theory and production.

1. Be admitted to the minor program by application. See the college advisement center.
2. Complete the following:
    ThF 117, 280, 285, 385.
3. Complete 1 hour of the following:
    ThF 199R.
4. Select one course from the following:
    ThF 202, 203.

*Hours include courses that may fulfill GE or university requirements.

## Minor Liberal Arts Theatre (17 hours)

This minor is intended for students from other departments who have an interest in theatre and desire to have a designed program and official designation for having completed it. It provides a broad view of theatre that includes analysis, acting, and technical production.

1. Complete the following:
    ThF 116, 121, 123, 127R, 140, 141, 143R, 361.
2. Select one course from the following:
    ThF 200, 201.

## Minor Theatre Arts Education (28 hours)

1. Complete the following:
    ThF 116, 121, 123, 127R, 140, 141, 142, 220, 261, 361, 377, 461.
2. Select one course from the following:
    ThF 200, 201.

# Theatre and Film (ThF)

## Undergraduate Courses

**115. Introduction to the Theatre.** (3:3:1) Independent Study also.
Appreciation of theatre through lectures, viewing productions, reading, writing, demonstrations, and productions. Lab required.

**116. Dramatic Structure and Analysis.** (2:2:1)
Play analysis and dramatic theory. Lab required.

**117. Introduction to Film Art and Analysis.** (3:5:1)
Analytical skills for understanding and appreciating film art; basic history, theory, and aesthetics. Lab required.

**121. Voice and Diction 1.** (2:3:1)
Skills involved in producing an effective voice; International Phonetic Alphabet. Lab required.

**122. Voice and Diction 2.** (2:3:1) Prerequisite: ThF 121.
Continuation of ThF 121. Integration of skills leading to effective vocal performance. Lab required.

**123. Acting: Basics for Stage and Screen.** (2:4:1) Prerequisite: ThF 121.
Fundamental acting skills: perception, emotive analysis, thought processes. Lab required.

**124R. Acting: Performance for Stage and Screen.** (3:6:1 ea.) Prerequisite: ThF 121; 122 or concurrent registration; 123. By audition only.
Integrating acting skills; building a character through scene work.

**127R. Stage and Screen Makeup 1.** (2:4:1 ea.)
Basic techniques in stage and screen makeup.

**140. Set Construction 1.** (1:1:2)
Methods of scenery construction. Lab required.

**141. Costume Construction 1.** (1:1:3)
Methods of costume construction. Lab required.

**142. Stage Lighting 1.** (2:2:2)
Fundamental training in stage lighting. Lab required.

**143R. Theatre Production 1.** (1:0:4 ea.) Prerequisite: ThF 142.
Methods of production. Lab required.

**187. Fundamentals of Film.** (2:2:1) Prerequisite: film major status.
Survey and exploration into different film and media careers and applications.

**199R. Theatre/Film Internship.** (1–3:Arr.:Arr. ea.)
Off-campus work experience in theatre or film; required in certain emphasis tracks.

**200. History 1: Theatre.** (3:3:0)
Play analysis, dramatic theory, and first half of theatre history: origins, Greek, Roman, medieval, Italian Renaissance, Spanish, Elizabethan.

**201. History 2: Theatre.** (3:3:0)
Second half of theatre history: Oriental, Renaissance and baroque France, England 1642–1800, eighteenth-century Europe, romanticism, realism, departures from realism, contemporary.

**202. Film History 1.** (3:3:0) Prerequisite: ThF 117 and acceptance into film BA major.
Survey course (1895–1935): classic silent and sound films, emphasizing American and including some German, Russian, Italian, and French films.

**203. Film History 2.** (3:3:0) Prerequisite: ThF 117, 202, and acceptance into film BA major.
Survey course (1935 to present): classic American and some German, Russian, Italian, and French films.

**220. Principles of Design for Stage and Screen.** (2:4:0)
Basic theories and practices of design as related to the actor, director, writer, designer, and technician.

**228. Music Dance Theatre Seminar.** (1:2:4) Prerequisite: concurrent registration in Dance 228 and Music 228. For music dance theatre BFA majors only.
Intensive integration of music, dance, and theatre for the performer.

**240R. Workshop 1: Acting.** (1–6:0:18 ea.) Prerequisite: instructor's consent.
Experience in production: acting.

**243R. Workshop 1: Directing.** (1–6:0:18 ea.) Prerequisite: instructor's consent.
Experience in production: directing.

**261. Beginning Directing for Secondary Schools.** (2:3:1) Prerequisite: ThF 123, 124.
Examining directors' works to establish personal directing philosophies.

**280. Film Production 1.** (3:3:0) Prerequisite: ThF 117, 199R, acceptance into film BA major.
Visual and aural language of 16-mm film production; basic vocabulary, equipment, and technical skills. Lab required. Fee.

**285. Introduction to Screenwriting.** (3:3:0) Prerequisite: ThF 202, 203, acceptance into film BA major.
Overview and application of media writing; includes commercials, promotional films, instruction/training documentaries, and short features.

**287R. Student Film Symposium.** (0.5:0.5:0 ea.) Weekly.
Assemblies that interface industry professionals and scholars with students in lecture and question-and-answer sessions.

**295R. Workshop 1: Special Projects.** (1–6:0:18 ea.)
Experience in production: special projects.

**299R. Cooperative Education.** (1–9:0:6 ea.) Prerequisite: instructor's consent.
Stage, film, and television writing, directing, acting, designing, and managing.

**300. History of Music Dance Theatre.** (1:3:0) Prerequisite: concurrent registration in Dance 300 and Music 300.
Development of music theatre in Western tradition from classical antiquity to present, emphasizing union of music, theatre, and dance.

**318R. Properties for Stage and Screen.** (2:2:2 ea.) Prerequisite: ThF 140, 220, or equivalent.
Materials and techniques of properties design and construction.

**319. Stage Management 1.** (2:2:2)
Backstage organization, safety procedures, and operating stage machinery. Stage managers selected from this course.

**320. Scenic Design 1.** (3:3:0) Prerequisite: ThF 220.
Theories and practices of set design, drafting, and painting.

**321. Stage Lighting 2.** (2:2:2) Prerequisite: ThF 142.
Theories and practices of theatrical lighting design and sound.

**322. Applied Classical Speech Technique.** (2:4:0) Prerequisite: ThF 121, 122, 123, 124, and concurrent registration in 423.
Speech techniques applied in the classical play.

**323R. Acting: Music Scene Study.** (3:6:1 ea.) Prerequisite: ThF 124R. By audition only.
Development of acting, singing, and dancing for music theatre through scene study.

**324R. Acting: Dialects.** (3:6:1 ea.) Prerequisite: ThF 124R. By audition only.
Major stage dialects and their performance in scenes.

**325R. Art of Interpretation.** (3:3:1 ea.) Prerequisite: ThF 121, 122, 123, 124.
Practical experience in correct voice principles leading to performance quality.

**326. Sound Design 1.** (2:2:2) Prerequisite: ThF 220 or equivalent.
Basics of theatre acoustics and operational techniques: recording, editing, and reinforcing.

**327R. Stage and Screen Makeup 2.** (2:4:2 ea.) Prerequisite: ThF 127R or equivalent.
Advanced techniques in makeup and prosthetics.

**333. Intermediate Movement for Theatre.** (2:2:0) Prerequisite: Dance 130, 134, 240.
Use of the body as a primary tool for character and script interpretation.

**340. Set Construction 2.** (1:0:4) Prerequisite: ThF 140 or equivalent.
Experience in production: construction.

**341. Costume Construction 2.** (1:0:4) Prerequisite: ThF 141R or equivalent and instructor's consent.
Experience in production: costume.

**343R. Theatre Production 2.** (1:0:4 ea.) Prerequisite: ThF 143R or equivalent.
Methods of production.

**344R. Scenic Painting.** (2:2:2 ea.) Prerequisite: ThF 220.
Experience in production: design.

**361. Directing Theory.** (3:2:4) Prerequisite: lower-division theatre core. For majors or minors only.
Fundamental theories of directing for film and stage. Lab required.

**362. Costume Design 1.** (2:2:3) Prerequisite: ThF 220, 295R, or equivalent.
Principles and aesthetics of costume design and construction.

**372. Drama in the Elementary Classroom.** (2:1:2) F, W, Sp, Su
Creative dramatics/improvisation, puppetry, storytelling, readers theatre/choral speaking, theatre production with children. Required for elementary education majors.

**377. Secondary Teaching Preparation.** (4:4:0) Prerequisite: instructor's consent.
Developing methods and materials for curriculum and production.

**378R. Playwriting.** (3:4:0 ea.) Independent Study also.
Theory and technique of writing the one-act and full-length play.

**380. Film Production 2.** (3:3:1) Prerequisite: ThF 280 and acceptance into film BA major.
Intermediate 16-mm film production techniques; introduction of synchronous sound and short narrative techniques. Lab required. Fee.

**381. Documentary Film.** (3:3:0) Prerequisite: ThF 202.
Introduction to and contextualization of documentary film from its inception to the present.

**385. Film Ethics and Criticism.** (3:3:0) Prerequisite: ThF 202, 203, 280, and acceptance into film BA major.
Ethical aspects and moral order of filmmaking/viewing.

**399R. Cooperative Education.** (1–9:0:6 ea.) Prerequisite: instructor's consent.
Stage, film, and television writing, directing, acting, designing, and managing.

**423R. Acting: Classics.** (3:6:1 ea.) Prerequisite: ThF 124R. By audition only.
Acting problems peculiar to classical literature, emphasizing Shakespearean scansion and text analysis.

**424R. Acting: Cinema and TV Techniques.** (2:3:Arr. ea.) Prerequisite: ThF 123. By audition only.
On-camera techniques. Lab required.

**426R. Music Dance Theatre: Senior Performance Project.** (1:0:5 ea.) Prerequisite: ThF 361; concurrent registration in Music 426R and Dance 426R and MDT advisory committee's consent.
Final senior performance project integrating music, dance, and theatre in performance.

**447R. Film Crew.** (1–3:0:3–9 ea.) Prerequisite: ThF 280, 490, acceptance into film BA major, and instructor's consent.
Practical supervised experience in film production. Exposure to organization, protocol, and technical aspects.

**461. Directing Practice.** (3:2:4) Prerequisite: lower-division theatre core and ThF 361.
Directing projects. Lab required.

**462. Costume Design 2: Graphics.** (2:4:0) Prerequisite: instructor's consent.
Graphic skills for costume renderings.

**472R. Puppetry.** (3:4:0 ea.)
Theories, techniques, and experience constructing and operating puppets for use in performance, recreational, and educational settings.

**480R. Film Production 3.** (1–4:Arr.:Arr. ea.) Prerequisite: ThF 280, 380, 490, and instructor's consent.
Advanced 16-mm film production; writing, management, technical, and theoretical skills. Fee.

**484. Writers/Directors Workshop.** (3:0:9) Prerequisite: ThF 380, 485, and acceptance into film BA major.
Experience videotaping, directing, editing, and revising scenes from advanced student scripts.

**485. Screenwriting 2.** (3:3:0) Prerequisite: ThF 285 and acceptance into film BA major.
Fundamentals of dramatic theory, introduction to specialized structures and script formatting, and practical screenwriting assignments.

**486R. Producer's Practicum.** (1–3:3:3 ea.) Prerequisite: ThF 490 and acceptance into film BA major.
Practical issues of collaboration, integrity, and decision making with overview of producer's role in finding, developing, funding, and marketing motion pictures in domestic and foreign theatrical and television venues.

**487R. Motion Picture as a Mirror of Our Times.** (3:2:3 ea.) Prerequisite: ThF 202, 203, and acceptance into film BA major.
Interdisciplinary approach to films as works of art and as historical documents expressing a people, place, and time.

**489R. Theory and Criticism of Film Art.** (3:2:3 ea.) Prerequisite: ThF 202, 203, and acceptance into film BA major.
Various approaches to contemporary critical discourse.

**490. Film Production Management.** (3:3:0) Prerequisite: ThF 280, 285, and acceptance into film BA major.
Overall view of how motion picture production is organized.

**499R. Professional Internship.** (1–9:0:6 ea.) Prerequisite: ThF 280, 490, acceptance into film BA major, and instructor's consent.
Experience with a motion picture production company.

## 500-Level Graduate Courses (available to advanced undergraduates)

**516R. Theatre and Film Instruction.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Master class for developing teaching methods and techniques.

**519R. Stage Management 2.** (1–3:0:9 ea.) Prerequisite: ThF 319 or equivalent.
Advanced principles, techniques, and practice. Production stage managers chosen from this course.

**520. Scenic Design 2.** (3:3:0) Prerequisite: ThF 140, 220, or instructor's consent.
Intermediate theory and practice of scenic design for the stage.

**522R. Auditions and the Business.** (3:6:0 ea.) Prerequisite: ThF 124R, 323R, 324R.
Auditions, cold reading, resumés, and the business end of acting, music, and dance for the professional performer.

**523R. Acting: Recital.** (2:6:0 ea.) Prerequisite: ThF 124R, 323R, 324R.
Twenty-five- to thirty-minute performance of cuttings from varied genres.

**524R. Acting: Advanced Performance.** (3:1:8 ea.) Prerequisite: ThF 124R, 323R, 324R.
Performance option: performance and written analysis of approved role in a major production. Teaching option: assistance in acting classes and a weekly seminar.

**526. Sound Design 2.** (2:2:2) Prerequisite: ThF 220, 326, or equivalent.
Theory, practice, and methodology of studio sound recording, reinforcement, and mixing.

**527. Storytelling.** (2:2:1)
Theory, technique, and practice.

**540R. Workshop 2: Acting.** (1–6:0:18 ea.) Prerequisite: instructor's consent.
Advanced experience in production: acting.

**541. Set Construction 3.** (3:3:3)
Advanced experience in production: construction.

**542R. Theatre Production 3.** (1–3:0:9 ea.) Prerequisite: ThF 143R, 343, or equivalent.
Advanced experience in production: technical crew.

**543R. Workshop 2: Directing.** (1–6:0:18 ea.) Prerequisite: instructor's consent.
Advanced experience in production: directing.

**544R. Workshop 2: Design.** (1–6:0:18 ea.) Prerequisite: instructor's consent.
Advanced experience in production: design.

**545R. Costume Construction 3.** (1–6:0:18 ea.) Prerequisite: ThF 543R, 544R, or instructor's consent.
Special construction: armor, masks, etc.

**552R. Creative Dramatics and Improvisation.** (3:3:2 ea.)
Informal or improvised dramatic techniques with children, adolescents, and/or adults.

**562. Costume Design 3.** (3:3:3) Prerequisite: ThF 220, 362, 462, 544R, 595R, or instructor's consent.
Advanced theory and practice in costume design for stage and screen.

**572R. Theatre for Children.** (2:3:1 ea.)
Theories, techniques, and experience in creating formal drama for the child and youth audience.

**578R. Advanced Playwriting.** (2–6:4:0 ea.) Prerequisite: ThF 378R.
Seminar in playwriting.

**579R. Playwright's, Director's, Actor's Workshop.** (4:4:1 ea.) Prerequisite: by audition only.
Group approach to nurturing new work through script study, improvisation, and staged readings.

**581. Art Direction.** (3:2:3) Prerequisite: ThF 280 or equivalent and instructor's consent.
Fundamentals of motion picture/ television art direction and design.

**584. Film Sound.** (3:2:1) Prerequisite: ThF 480R or equivalent and instructor's consent.
Motion picture sound recording and theory.

**585. Screenwriting 3.** (3:3:0) Prerequisite: ThF 485 or equivalent and acceptance into film BA major. By audition only.
Theory and technique of writing feature-length dramatic screenplays.

**587R. Film Genres.** (3:2:3 ea.) Prerequisite: ThF 202, 203, 489R, and acceptance into film BA major.
Intensive study of major film genres: western, musical, or horror.

**588R. Motion Picture Directors.** (3:3:0) Prerequisite: ThF 202, 203.
In-depth study of representative body of motion pictures by one major film director such as John Ford, Howard Hawks, Ingmar Bergman, or Woody Allen.

**595R. Workshop 2: Special Projects.** (1–6:0:18 ea.)
Advanced experience in production: special projects.

**599R. Cooperative Education.** (1–9:0:6 ea.) Prerequisite: instructor's consent.
Off-campus experience in stage, film, or television writing, directing, acting, designing, or managing.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Theatre and Film Faculty

**Professors**
Bentley, Marion J. (1971) BS, U. of Utah, 1950; MA, Stanford U., 1958; PhD, U. of Utah, 1968.
Fielding, Eric (1992) BA, Brigham Young U., 1974; MFA, Goodman School of Drama, Art Institute of Chicago, 1976.
Metten, Charles L. (1962) BA, MA, U. of California, Los Angeles, 1951, 1952; PhD, U. of Iowa, 1960.
Oaks, Harold R. (1970) BA, MA, Brigham Young U., 1960, 1962; PhD, U. of Minnesota, Minneapolis, 1964.
Pope, Karl T. (1966) BA, MA, Brigham Young U., 1962, 1964; PhD, Wayne State U., 1966.

**Associate Professors**
D'Arc, James V. (1979) BA, PhD, Brigham Young U., 1978, 1986.
Heiner, Barta (1988) BA, Brigham Young U., 1971; MFA, American Conservatory Theatre, 1977.
Nelson, George D. (1990) BA, Brigham Young U., 1977; MFA, U. of Washington, 1979.
Nelson, Robert A. (1979) BA, U. of Arizona, 1970; PhD, U. of Utah, 1976.
Scanlon, Rory R. (1984) BA, Brigham Young U., 1980; MFA, U. of Illinois, 1984.
Swenson, Janet L. (1974) BA, MA, Brigham Young U., 1969, 1974; MFA, U. of Utah, 1992.

**Assistant Professors**
Crosland, Ivan A. (1971) BS, MA, Brigham Young U., 1961, 1965.
Morgan, David (1991) BA, Brigham Young U., 1985; MFA, National Theatre Conservatory, 1990.
Samuelsen, Eric (1992) BA, Brigham Young U., 1983; PhD, Indiana U., 1991.
Slover, Tim (1989) BA, Brigham Young U., 1980; MA, U. of Michigan, 1981; PhD, Indiana U., 1991.
Swenson, Sharon L. (1987) BA, MA, PhD, U. of Utah, 1968, 1974, 1993.
Walker, Oscar Lee (1969) BS, MIE, Brigham Young U., 1968, 1975.

**Instructor**
Duncan, Dean W. (1992) BFA, Brigham Young U., 1987; MA, U. of California, Los Angeles, 1991.

**Emeriti**
Gledhill, Preston R. (1947) BA, Brigham Young U., 1939; Louisiana State U., New Orleans, 1940; PhD, U. of Wisconsin, Madison, 1951.
Golightly, Max C. (1957) BA, MA, Brigham Young U., 1950, 1959.
Henson, Charles A. (1958) BS, MS, EdD, Brigham Young U., 1957, 1959, 1980.
Jenkins, Jean R. (1967) BA, MA, Brigham Young U., 1947, 1966.
Whitman, Charles W. (1965) BA, MA, Brigham Young U., 1957, 1958; PhD, U. of Minnesota, Minneapolis, 1967.
Woodbury, Lael J. (1965) BS, Utah State U., 1952; MA, Brigham Young U., 1953; PhD, U. of Illinois, 1954.

# Thai

See Asian and Near Eastern Languages.

# Ukrainian

See Germanic and Slavic Languages.

# Vietnamese

See Asian and Near Eastern Languages.

# Visual Arts

Michael D. Day, Chair
B-509 HFAC, PO Box 26402, (801) 378-4429

Robert Barrett, Associate Chair
210 BRMB, PO Box 22500, (801) 378-2064

College of Fine Arts and Communications Advisement Center
D-444 HFAC, PO Box 26333, (801) 378-3537

A merger of the Department of Art and the Department of Design has been approved by the university administration. The new Department of Visual Arts offers four areas of study with 10 majors plus emphases. See below for details.

## Admission to Degree Programs

Admission to the freshman level in the Department of Visual Arts is obtained through an application process. Special enrollment limitations for degree programs will be applied at the end of the freshman year. Please see the college advisement center for specific details.

## The Discipline

The Department of Visual Arts serves five main purposes: (1) preparing competent professionals in various fields of the plastic and graphic arts; (2) preparing qualified designers in problem solving of two- and three-dimensional applications; (3) training historians who can critically appraise works of art; (4) preparing art educators for teaching the visual arts at the elementary, secondary, and high education levels; and (5) generally developing the aesthetic sense of individuals by helping them experience art.

## Career Opportunities

The art education degree certifies the student as an art specialist, grades K–12, in public or private institutions. Other opportunities for the certified art specialist are in foreign school systems, recreation programs, art museum education programs, and galleries. Students qualify for positions in artist-in-the-schools programs and arts councils and as art critics and art consultants/coordinators. The degree also provides a foundation for graduate degrees, enabling the student to teach in colleges and universities (private, public, vocational, and technical) or practice art therapy.

Most opportunities for careers related to art history exist in teaching at the junior college and university levels. The art history major traditionally prepares students for related graduate study, but it also provides excellent training for many art- and humanities-related careers and provides a solid foundation for entering several professional graduate programs.

The art history major is valuable for those going into any aspect of museum work, including art conservation/restoration, curatorial work, museum research, and museum youth education programs. It is also a useful and often key undergraduate major for careers in art law, architecture, historical restoration, art galleries, auction houses, and art resource/research library studies. Local, state, and federal agencies offer career possibilities related to arts and humanities councils. Combined with one of several other majors, an art history minor helps prepare the student for any number of careers.

Studio art majors are prepared to compete as freelance, self-employed artists, working through galleries, exhibitions, and museums to promote and sell their work. The MFA degree also prepares artists to teach on a college or a university level. Other career opportunities include printmaking, illustration, production crafts, teaching, gallery and museum work, computer art applications, and other related careers.

Design majors are fully prepared for careers in each of the respective disciplines—

Graphic design: Advertising agencies, design studios, in-house design organizations, freelance in mediums such as books, posters, signage, billboards, commercials, corporate identity systems, and logos.

Illustration: In-house or freelance illustration focusing on book jacket, editorial, corporate, or institutional work; advertising; children's books, etc.

Industrial design: Technical specialization in areas as diverse as automobiles, toys, sports and medical equipment, consumer products for the home or business, exhibits, furniture, electronics, and computer design.

Interior design: Residential design or specialization, including remodeling, preservation, architectural design, space planning, art and accessory dealing, color consultation, drafting and/or computer-aided design.

Photography: Portraiture; commercial illustration; advertising; fashion; architectural photography; photo-journalism; editorial, stock, industrial, fine art, educational, medical, and travel photography; conservation, marketing and manufacturing, and photofinishing.

Animation and multimedia are new areas for design exploration in the discipline.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

Religion . . . . . 14.0
Upper-division hours . . . . . 40.0
Residency . . . . . 30.0
Total hours . . . . . 128.0
Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BA Art
BA Art Education (K–12)
BA Art History
BA Honors in Art History and University Honors
BA Design
BFA Art
Emphases:
Ceramics
Painting
Printmaking
Sculpture
BFA Honors in Art and University Honors
Emphases:
Ceramics
Painting
Printmaking
Sculpture
BFA Graphic Design
BFA Illustration
BFA Industrial Design
BFA Interior Design
BFA Photography
Minors Art
Art Education
Art History

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MA Art Education
MA Art History
MFA Studio Art

For more information see the 1996–97 Graduate Catalog.

## General Information

#### Application Procedures for New Students

New students are accepted only at the beginning of the fall semester or spring term. Enrollment is limited and based on several qualifications:

1. University and college admissions standards.
2. Completion of biographical and background information forms.
3. A personal statement (100–300 words) describing your intent, interest, and experience in the visual arts.

Appropriate forms are contained in an application packet available from either of the department offices (C-502 HFAC and 210 BRMB) at the beginning of winter semester.

**Note:** Art History majors complete item 1 only.

#### Freshman Enrollment Fall Semester

Application packets must be obtained before February 28 and returned before March 31. Individuals will be notified whether or not they have been accepted by April 30.

#### Freshman Enrollment Spring Term

Application packets must be obtained before January 15 and returned by February 15. Individuals will be notified whether or not they have been approved by March 15.

**Note:** Individuals receiving notice of acceptance will be permitted to register for the foundation 100-level core classes fall and winter semesters.

#### Sophomore-Through-Senior BFA Degree Program Enrollmen

Permission to enroll for sophomore-through-senior-level BFA degree program courses is granted to students upon satisfactor development of skills and creative abilities demonstrated in a portfolio of drawings and designs completed during the preceding year. Faculty from each major will assess portfolios of work submitted by students wishing to advance in their respective fields of study. Students invited to continue are permitted to enroll in specified courses at the next academic level.

**Note:** Students not accepted into BFA degree programs may elect to enroll in the bachelor of arts program in art or design.

#### Degree Program Coordinators/Advisors

Coordinators are appointed to counsel students in each of the 10 major/emphases. Coordinators will advise students about program objectives, course content and sequence, career goals, and other matters pertaining to their major field of study.

#### Special Notice

Students receiving C or lower grades in 300- or 400-level courses will be placed on department probationary status.

No D grade in department courses and required support courses will be applied toward graduation for BFA and BA majors.

#### Department Probationary Status

Students can be placed on probationary status for the following:

1. Inadequate academic performance.
2. Unprofessional attitude and lack of commitment.
3. BYU Honor Code violations.

#### Basic Degree Requirements

1. Student must meet application criteria for admission into the program.
2. All 100-level foundation courses must be completed before admission into sophomore-level courses.
3. No D credit is allowed in major courses and required support courses.
4. A portfolio is required in all programs except the BA in design.

## BA Art (64 hours*)

#### Major Requirements

1. No D credit is allowed in major courses.
2. Complete the following:
   VACor 118, 119, 120, 121.
3. Select three courses from the following:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.

4. Complete the following:
   VAStu 214, 215, 216, 217, 218, 219, 220, 221.
5. Select one course from the following:
   VAStu 321R, 322R.
6. Complete the following:
   VAStu 327R, 333R.
7. Select one course from the following:
   VAStu 350R, 351R.
8. Select one course from the following:
   VAStu 356R, 358R.
9. Complete the following:
   VAEdu 397.
   VAStu 359R.
10. Complete the following:
    VAHis 201, 202.
11. Select one course from the following:
    VAHis 350, 355.
12. Complete 3 elective hours in art history.
13. Complete a minimum 6 elective hours in art.

Hours include courses that may fulfill GE or university requirements.

## BA Art Education (K–12) (89 hours,* including certification hours)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following first-year foundation courses:
   VACor 120, 121, 130, 132, 133, 134.
   VAEdu 176.
3. Complete the following second-year foundation courses:
   VAStu 214 or 215.
   VAStu 216 or 217.
4. Complete the following:
   VAHis 300.
5. Select one course from the following:
   VAHis 350, 355.
6. Complete the following:
   VAEdu 324, 339, 377, 397, 439, 476, 478.
   VAStu 349R, 354R.
7. Complete the following:
   FamSc 210.
   IS 286.
   RelC 491, 492.
   ScEd 276R, 326, 351, 375.
   VADes 270.
   VAHis 201, 202.
8. Complete 12 hours of the following:
   ScEd 476R.

*Hours include courses that may fulfill GE or university requirements.

## BA Art History (49 hours*)

**Major Requirements**

1. No D credit is allowed in major courses.
2. Complete the following:
   VAHis 201, 202, 300.
   VAStu 200.
3. Ancient art: Select one course from the following:
   VAHis 304, 306.
4. Medieval art: Select one course from the following:
   VAHis 310, 315, 317.
5. Renaissance and baroque art: Select one course from the following:
   VAHis 320, 325, 330, 335.
6. Nineteenth-century art: Select one course from the following:
   VAHis 340, 345, 363, 365.
7. Modern art: Select one course from the following:
   VAHis 350, 355, 367.
8. Complete the following (to be taken during the senior year):
   VAHis 495R.
9. Select two courses from the following:
   **Either** VAHis 260, 400R, 490R
   **Or** any of the following upper-division core courses not already taken:
   VAHis 304, 306, 310, 315, 317, 320, 325, 330, 335, 340, 345, 350, 355, 363, 365, 367.
10. Select one course from the following:
    Fren 201, Germ 201, Ital 201.

    **Note:** German is strongly recommended for those wishing to pursue graduate work in art history.
11. Cognate fields: Complete 9 hours (three courses) from the following:
    Anthr 351, 378.
    ClCv 241, 245, 246, 304, 307, 310.
    Dutch 340.
    Fren 420, 421.
    Germ 330.
    Hist 300, 302, 310, 311, 312, 313, 319, 320, 322, 323, 330, 332, 335, 336, 370, 376, 387, 388, 400R.
    Ital 420, 421.
    Phil 201, 202, 214.
    Span 345, 355.

*Hours include courses that may fulfill GE or university requirements.

## BA Honors in Art History and University Honors

For information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BA Design (50 hours)

**Major Requirements**

1. Complete the following:
   VACor 118, 119, 120, 121.
2. Select three courses from the following:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 210, 220, 230, 245, 250, 270.
4. Select five courses from the following:
   VADes 328, 329, 339, 349, 359, 379.

5. Select an additional 9 hours of credit in approved support courses in art, business, computer science, or advertising. Consult with the BA design advisor to arrange individual programs of study.

## BFA Art (71 hours)

The BFA is a professional degree. An area of emphasis is selected from ceramics, painting, printmaking, and sculpture.

Students may certify to teach art in public schools concurrent with the BFA Art program. See BA Art Education (K–12) requirements 7 through 12.

**Major Requirements**

1. Acceptance into the BFA program.
2. Portfolio during junior year.
3. No D credit is allowed in major courses.
4. Complete the following:
   VACor 118, 119, 120, 121.
5. Select three courses from the following:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.
6. Complete the following:
   VAStu 214, 215, 216, 217, 218, 219, 220, 221.
7. Complete the following:
   VAHis 201, 202.
8. Select one course from the following:
   VAHis 350, 355.
9. Complete an additional 3 elective hours in art history from 300-level courses.
10. Complete the following:
    VAEdu 397.
    VAStu 398, 540.
11. Complete 24 hours in an area of emphasis (ceramics, painting, printmaking, or sculpture).
12. Complete the following:
    VAStu 497R.

## BFA Honors in Art and University Honors

For information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BFA Graphic Design (74–76 hours)

**Major Requirements**

1. Complete the following core requirements:
   VACor 118, 119, 120, 121.
2. Select three courses from the following core requirements:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 210, 243, 245, 250, 270, 310, 340, 341, 342, 343, 344, 441, 442, 443, 444.
4. Complete 5 hours of the following:
   VADes 497R.
5. Complete the following history requirement:
   VADes 349.
6. Select one course from the following history requirements:
   VADes 328, 329, 339, 359, 379.
   VAHis 350.
7. Select four of the following supporting courses:
   BusM 340.
   Comms 230.
   VADes 348, 351, 352, 410R, 488, 496R, 499R.

## BFA Illustration (77 hours)

**Major Requirements**

1. Complete the following core requirements:
   VACor 118, 119, 120, 121.
2. Select three courses from the following core requirements:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 210, 243, 245, 250, 270, 351, 352, 353, 354, 451, 452, 453, 454, 488.
4. Complete two courses of the following:
   VADes 350R.
5. Complete 6 hours of the following:
   VADes 497R.
6. Complete the following history requirement:
   VADes 359.
7. Select one course from the following history requirements:
   VADes 328, 329, 339, 349, 379.
   VAHis 350.
8. Select 9 hours from the following supporting courses:
   VADes 310, 348, 350R, 410R, 450, 494R, 496R, 499R.
   VAStu 218, 219, 328R, 333R.

## BFA Industrial Design (74–75 hours*)

**Major Requirements**

1. Complete the following core requirements:
   VACor 118, 119, 120, 121.
2. Select three courses from the following core requirements:
   VACor 130, 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 199R (1–2 hours), 210, 214R, 230, 231, 232, 233, 310, 330, 332, 340, 341, 410R, 430, 432, 488.
4. Complete 6 hours of the following:
   VADes 497R.
5. Complete the following history requirements:
   VADes 329, 339.
   VAHis 111, 367.
6. Complete the following supporting courses:
   MFE 232.
   TecE 240.

*Hours include courses that may fulfill GE or university requirements.

## BFA Interior Design (74 hours)

Major Requirements

1. Complete the following core requirements:
   VACor 118, 119, 120, 121.
2. Select three courses from the following core requirements:
   VACor 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 199R (1 hour), 210, 220, 221R, 222, 223, 224, 225, 226, 227R, 310, 320, 322, 325, 420R, 422R (1 hour), 488.
4. Complete 3 hours of the following:
   VADes 497R.
5. Complete the following history requirements:
   VADes 328, 329.
6. Select 14 hours from the following supporting courses (or other classes as approved by the BFA advisor):
   VADes 270, 321R, 326, 335R, 384R, 410R, 411R, 435R, 496R, 499R.

## BFA Photography (73–74 hours)

Major Requirements

1. Complete the following core requirements:
   VACor 118, 119, 120, 121.
2. Select three courses from the following core requirements:
   VACor 131, 132, 133, 134, 135.
   VAEdu 176.
3. Complete the following:
   VADes 210, 245, 270, 272, 273, 310, 372, 374, 375, 376, 377R, 477R, 478, 488, 499R.
4. Complete 5 hours of the following:
   VADes 497R.
5. Complete the following history requirement:
   VADes 379.
6. Select one course from the following history requirements:
   VADes 328, 329, 339, 349, 359.
7. Select four of the following supporting courses:
   Comms 230, 235, 365R.
   TecE 453.
   VADes 410R.

## Minor Art (20 hours)

1. Complete the following:
   VACor 118, 119, 120, 121.
2. Select two courses from the following:
   VACor 130, 131, 132, 133, 134, 135.
3. Select 6 hours from the following:
   VAStu 214, 215, 216, 217, 218, 219, 220, 221.
4. Complete 3 hours of art history or art criticism.

## Minor Art Education (23 hours)

1. Complete the following:
   VACor 118, 120, 121.
2. Complete the following:
   VACor 119, 130, 132, 133.
3. Complete the following:
   VAEdu 176, 377, 397, 439.

## Minor Art History (15 hours*)

1. Complete the following:
   VAHis 201, 202.
2. Complete 9 elective hours in art history from 300-level or above courses.

*Hours include courses that may fulfill GE or university requirements.

## Visual Arts Core (VACor)

Required of all majors in the visual arts (except art history), the visual arts core is a predisciplinary preparation that embraces knowledge and skills from each discipline and underlying principles common to all disciplines. The core is designed to serve students more efficiently by facilitating their progress through the visual arts programs and allowing flexibility in choosing their individual program direction. The core enables students to acquire a basic and broad understanding of the visual arts before engaging in the specific discipline's content and modes of inquiry.

## Undergraduate Courses

**118. Visual Arts Seminar 1.** (0.5:1:0) F, Sp Prerequisite: concurrent registration in VACor 120, 121.
Discussion-based seminar emphasizes thinking skills and generating ideas. Exercises and problems based on issues and events that affect the visual arts. Readings, writings, guest lecturers, and discussions.

**119. Visual Arts Seminar 2.** (0.5:1:0) W, Su Prerequisite: VACor 118.
Lecture-based seminar addresses issues and themes pertinent to visual arts professions. Guest lecturers, teleconferences, readings, writings, and discussions covering studio and cognate areas.

**120. Composition.** (3:6:0) F, W, Sp, Su
Formal elements of design and composition with 2-D and 3-D applications using the computer along with traditional formats. Readings, writings, and participation in course work exhibitions required.

**121. Drawing.** (3:6:0) F, W, Sp, Su
Observational and conceptual drawing using a variety of media and methods. Readings, writings, and participation in course work exhibitions required.

**130. Color.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Color concepts and theories using a variety of media and methods. Readings, writings, and participation in course work exhibitions required.

**131. Figure Drawing.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Figure study using a variety of media and methods. Readings, writings, and participation in course work exhibitions required.

**132. Two-Dimensional Design.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Design concepts and theories using a variety of media and methods, including computer applications. Readings, writings, and participation in course work exhibitions required.

**133. Three-Dimensional Design.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Three-dimensional concepts, theories and issues using a variety of media and processes. Readings, writings, and participation in course work exhibitions required. Fee.

**134. Camera Techniques.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Understanding the camera; taking successful black and white pictures and color slides. Readings, writings, and participation in course work exhibitions required.

**135. Technical Drawing.** (2:4:0) F, W, Sp, Su Prerequisite: VACor 120, 121.
Drawing concepts and theories using a variety of media and methods, including pencils, markers, and the computer. Readings, writings, and participation in course work exhibitions required.

## Visual Arts Design (VADes)

### Undergraduate Courses

**102. Introduction to Interiors.** (3:3:0)
Interior design, emphasizing history and development of the American home.

**199R. Cooperative Education.** (1–3:Arr.:Arr. ea.) Prerequisite: admission by portfolio.
Work experience evaluated by supervisor and posted on student's transcript.

**210. Intermediate Computer Applications.** (2:0:2) Prerequisite: foundation core.
Introduction to computer software programs relative to design disciplines.

**214R. Shop Methods and Materials.** (2:3:1 ea.) Prerequisite: foundation core.
Introduction to simple hand and machine tools; basic woodworking and metalworking construction.

**220. Introduction to Interior Design.** (2:2:2) Prerequisite: foundation core.
Introductory, practical experiences based on elements and principles of interior design.

**221R. Presentation Methods for Interior Design 1.** (2:2:2 ea.) Prerequisite: foundation core.
Various media skills for rendering and presentation.

**222. Interior Design Studio 2.** (3:3:3) Prerequisite: Des 220.
Interior design, emphasizing aesthetics, programming, and residential design.

**223. Materials and Components.** (2:2:0) Prerequisite: foundation core.
Hard surface materials and their specification and application in interiors.

**224. Interior Textiles.** (2:2:0) Prerequisite: Des 115, 119.
Technical, practical, and aesthetic considerations of soft material and textile specification and applications in interiors.

**225. Detailing for Interiors 1.** (3:3:3) Prerequisite: foundation core.
Detailing and drafting for interiors using traditional mechanical means.

**226. Detailing for Interiors 2.** (3:3:3) Prerequisite: Des 225.
Continuation of Des 225.

**227R. Presentation Methods for Interior Design 2.** (2:2:2 ea.) Prerequisite: Des 221R.
Presentation methods emphasizing quick rendering techniques in a variety of styles and media.

**230. Introduction to Industrial Design.** (2:2:2) Prerequisite: foundation core.
Introduction to industrial design research, analysis, and problem-solving methods.

**231. Presentation Methods for Industrial Design 1.** (2:2:2) Prerequisite: foundation core.
Product presentation methods emphasizing perspective, value, scale, accuracy, and color.

**232. Industrial Design Studio.** (3:3:3) Prerequisite: Des 230, 231.
Continuation of Des 230 emphasizing human factors and ergonomics, restrictions and possibilities of materials and manufacturing, and coherent presentation of problems, processes, and ideas.

**233. Presentation Methods for Industrial Design 2.** (2:2:2) Prerequisite: Des 231.
Continuation of Des 231.

**243. Basic Typography.** (2:0:2) Prerequisite: foundation core.
Tools and techniques employed in indicating type and pictorial elements. Solving visual problems with type.

**245. Introduction to Graphic Design.** (2:2:2) Prerequisite: foundation core.
Using tools and preparing camera-ready mechanicals. Comprehensive study of current typesetting, printing, and binding methods; manufacture and uses of printing papers.

**250. Introduction to Illustration Design.** (2:2:2) Prerequisite: foundation core.
Overview of styles, techniques, methods, and materials. Illustrative concepts and problem solving.

**270. Introduction to Photographic Design.** (3:3:2) Prerequisite: foundation core.
Basic camera and photographic techniques, emphasizing black and white photography. Lab required.

**272. Introduction to Color Photography.** (3:2:3) Prerequisite: Des 270.
Basics of making color negatives and transparencies; darkroom techniques in printing from color negatives and transparencies.

**273. Advanced Photography.** (3:2:3) Prerequisite: Des 270.
Camera and darkroom techniques using the zone system for exposure and development control of negatives and prints. Lab required.

**310. Advanced Computer Applications.** (2:0:2) Prerequisite: Des 210.
Specific program applications of computers to design disciplines.

**320. Interior Design Studio 3.** (3:3:3) Prerequisite: Des 222.
Space planning, rendering, and nonresidential design.

**321R. Interior Presentation Techniques 3.** (2:2:2 ea.) Prerequisite: Des 227.
Continuation of Des 227.

**322. Interior Design Studio 4.** (3:3:3) Prerequisite: Des 320.
Synthesis of research, design, and presentation skills in nonresidential design.

**324. Building Systems.** (2:2:0) Prerequisite: Des 222.
Construction processes and building codes; structural, HVCA, plumbing, and electrical systems; acoustics; energy conservation.

**325. Lighting Techniques.** (2:2:0) Prerequisite: foundation core.
Lighting techniques and specifications for interiors.

**326. Detailing for Interiors 3.** (2:2:2) Prerequisite: Des 226.
Research and development of custom details for interiors.

**327. Presentation Models.** (2:2:2) Prerequisite: BFA acceptance.
Interior architecture model-making techniques.

**328. History of Interior Design and Architecture 1.** (3:3:0)
History of interior design, architecture, and furnishings from ancient Egypt to beaux arts movement. French, English, and American design.

**329. History of Interior Design and Architecture 2.** (3:3:0)
Furniture, interior design, and architecture from Industrial Revolution to present.

**330. Industrial Design Studio 3.** (3:3:3) Prerequisite: Des 232, 233.
Designer responsibilities, structured and unstructured procedures in problem solving, client relationships, functional relationships, and mechanisms and materials.

**331. Presentation Methods for Industrial Design 3.** (2:2:2) Prerequisite: Des 231.
Sketching and rendering techniques focused on surface materials and finishes.

**332. Industrial Design Studio 4.** (3:3:3) Prerequisite: Des 330, 331.
Continuation of Des 330 with renewed emphasis on human factors and ergonomics, plus market and user requirements and developing written briefs.

**335R. Introduction to Furniture Design.** (3:2:4 ea.) Prerequisite: foundation core.
Materials, structures, and production methods; prototype construction.

**339. History of Products.** (3:3:0) Prerequisite: foundation core.
Overview of artifacts and products; how they have influenced society from prehistory to present day.

**340. Corporate Identity Design.** (3:3:3) Prerequisite: Des 243 and BFA acceptance.
Current philosophy in corporate identification and trademark design. Design trademarks, logotypes, and identity programs.

**341. Packaging Design.** (3:3:3) Prerequisite: BFA acceptance.
Packaging and its function in the marketplace; current packaging technology and aesthetics.

**342. Advertising Design.** (3:2:2) Prerequisite: BFA acceptance.
Particular demands of the advertising world: marketing strategy, editorial and visual concepts, etc. Design ads, collateral materials, campaigns.

**343. Publication Design.** (3:2:2) Prerequisite: BFA acceptance.
Book and magazine publishing and their special editorial, design, and manufacturing requirements.

**344. Poster Design.** (3:3:3) Prerequisite: BFA acceptance.
Functions and characteristics of posters; past and current aesthetics.

**348. Type as Image.** (3:2:2) Prerequisite: BFA acceptance.
Developing unique and expressive letterforms, especially the modification of letters to create new abstract or pictorial images.

**349. History of Graphic Design.** (3:3:0) Prerequisite: foundation core.
Survey of visual communication.

**350R. Life Drawing.** (3:3:3 ea.) Prerequisite: BFA acceptance.
Drawing the figure in modern or historical costume; developing drawing skills, especially relating to the draped figure.

**351. Illustration 2.** (3:3:3) Prerequisite: BFA acceptance.
Narrative illustration problems emphasizing academic study of the human figure, using various media.

**352. Illustration 3.** (3:3:3) Prerequisite: BFA acceptance.
Conceptual illustration problems and market applications, using various media.

**353. Editorial and Book Illustration.** (3:3:3) Prerequisite: BFA acceptance.
Book and magazine illustration and philosophy; design and manufacturing requirements; design assignments.

**354. Advertising and Corporate Illustration.** (3:3:3) Prerequisite: BFA acceptance.
Demands of the advertising world; institutional illustration and ad campaigns; design assignments.

**359. History of Illustration.** (3:3:0) Prerequisite: foundation core.
Survey of illustration in visual communication. Emphasis on birth of publishing and "Golden Age" of American illustration.

**372. Illustration Photography.** (3:2:3) Prerequisite: BFA acceptance.
Camera and darkroom techniques to produce illustrations for advertising layout and other media. Lab required.

**374. Advanced Location Photography.** (3:0:4) Prerequisite: BFA acceptance.
Advanced techniques of location photography including architecture, annual report, portraiture; editorial work. Lab required.

**375. Portrait Photography.** (3:2:3) Prerequisite: BFA acceptance.
Studio and environmental portraiture. Lab required.

**376. Multi-Media Photography.** (3:2:3) Prerequisite: Des 270.
Producing photography, graphics, and sound for multi-image productions, emphasizing use of computerized programs. Lab required.

**377R. Advanced Photography Studio.** (3:3:3 ea.) Prerequisite: BFA acceptance.
Photography as an exploratory, sensitizing process. Lab required.

**379. History of Photography.** (3:3:0) Prerequisite: foundation core.
Origin and development of photographic process.

**384R. Problems in Color.** (2:2:2 ea.) Prerequisite: foundation core.
Specialized applications of color theory.

**410R. Computer Applications Studio.** (2:0:2 ea.) Prerequisite: Des 310.
Individual major project using high-end hardware and software.

**411R. Field Study.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
On-location study of design.

**420R. Interior Design Studio 5.** (3:3:3 ea.) Prerequisite: Des 322.
Interior design, emphasizing comprehensive research and planning of nonresidential interiors.

**421R. Interior Presentation Techniques 4.** (3:2:4 ea.) Prerequisite: Des 321R.
Continuation of Des 321R.

**422R. Interior Design Studio 6.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
National and international design competitions.

**427. Interior Presentation Techniques 5.** (2:2:2) Prerequisite: Des 421R.
Continuation of Des 421R.

**430. Industrial Design Studio 4.** (3:3:1) Prerequisite: Des 332, 333.
Systems design problems from initial research and analysis to final presentation of working drawings and models, with concern for ergonomics, anthropometries, marketing, user and buyer, production, function, and structure.

**432. Industrial Design Studio 5.** (3:3:3) Prerequisite: Des 330, 332, 430.
Portfolio development based on advanced design projects.

**435R. Advanced Furniture Design.** (3:2:4 ea.) Prerequisite: Des 335R.
Continuation of Des 335R.

**441. Senior Graphic Design Studio 1.** (3:3:3) Prerequisite: BFA acceptance.
Opportunity for senior class members to work as a group in solving design problems for real clients on major projects.

**442. Senior Graphic Design Studio 2.** (3:3:3) Prerequisite: Des 441.
Continuation of Des 441.

**443. Special Problems in Graphic Design 1.** (3:3:3) Prerequisite: BFA acceptance.
Advanced assignments in graphic design; individual portfolio development.

**444. Special Problems in Graphic Design 2.** (3:3:3) Prerequisite: BFA acceptance.
Continuation of Des 443.

**450. Painting the Human Head.** (3:3:3) Prerequisite: Des 350 and BFA acceptance.
Painting from a live model; unique aspects of portraiture and colors of the human face.

**451. Senior Illustration Studio 1.** (3:3:3) Prerequisite: Des 351, 352, and BFA acceptance.
Individual portfolio development.

**452. Senior Illustration Studio 2.** (3:3:3) Prerequisite: Des 451.
Flexible in nature, featuring various instructors with unique individual skills. Team taught.

**453. Illustration 4.** (3:3:3) Prerequisite: Des 351, 352, and instructor's consent.
Advanced assignments in illustration.

**454. Illustration 5.** (3:3:3) Prerequisite: Des 351, 352, and instructor's consent.
Continuation of Des 453.

**477R. Advanced Photography Studio 2.** (3:3:3 ea.) Prerequisite: Des 377.
Advanced assignments in photography. Fee.

**478. Advanced Color Photography.** (3:0:4) Prerequisite: Des 272 and BFA acceptance.
Advanced techniques of color photo processing, printmaking, and quality control.

**488. Professional Practices of the Designer.** (2:2:0) Prerequisite: junior or senior standing.
Business aspects of the design profession.

**489. Portfolio Preparation.** (2:1:1)
Final portfolio preparation.

**494R. Special Problems in Design.** (1–3:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Individual study in area of special interest.

**496R. Professional Internship.** (1–6:Arr.:Arr. ea.) Prerequisite: department's and faculty advisor's consent.
Work experience in professional design studio evaluated by supervisor.

**497R. BFA Final Project.** (1–3:Arr.:Arr. ea.) Prerequisite: BFA advisor's consent.
Advanced individual project with minimum guidance, showing high degree of competence within chosen major.

**499R. Directed Studies.** (1–6:Arr.:Arr. ea.)

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# Visual Arts Education (VAEdu)

## Undergraduate Courses

**176. Introduction to Teaching the Visual Arts.** (1:1:0)
Teaching grades K–12, emphasizing the role and image of visual arts education, professionalism, and a field experience.

**324. Foundations in Art Education.** (3:3:0) Prerequisite: concurrent registration in ScEd 276R.
Theoretical, philosophical, and historical foundations of art education; children's aesthetic development.

**326. Art for Elementary Teachers.** (2:2:1) F, W, Sp, Su
Preservice preparation designed to help elementary classroom teachers understand the visual arts and develop skills necessary for implementing a discipline-based approach for art education.

**339. Computer Application in Art Education.** (3:3:0) F, W, Sp
Basic program applications for developing instructional materials in art education.

**377. Art History and Studio Methods for Art Educators.** (3:3:0) W Prerequisite: VACor 176, VAEdu 324, ScEd 276R; VAEdu 339 or concurrent registration.
Theoretical foundations and practical applications for teaching art history and production.

**397. Introduction to Art Criticism.** (3:3:0)
Theoretical foundations for critical judgment in art and their application in judging works of art.

**439. Aesthetics and Criticism Methods for Art Educators.** (3:3:0) W Prerequisite: VACor 176, VAEdu 324, ScEd 276R; VAEdu 339 or concurrent registration.
Theoretical foundations and practical applications for teaching aesthetics and criticism.

**476. Art Student Teaching Seminar.** (3:3:0) Prerequisite: concurrent registration in ScEd 476R for 12 hours.
Analysis and discussion of art student teaching experience; educational leadership and professional responsibilities of art educators.

**478. Art Curriculum Development, Implementation, and Evaluation.** (3:3:0) Prerequisite: VACor 176, VAEdu 324, ScEd 276R; VAEdu 339 or concurrent registration.
Principles for developing balanced art curriculum; curriculum implementation; evaluation of student progress and art program effectiveness.

**494R. Special Problems in Art Education.** (1–3:0:0 ea.) Prerequisite: instructor's consent.

## 500-Level Graduate Courses (available to advanced undergraduates)

**578R. Art Education Studio.** (3:0:6 ea.)
MA courses in ceramics, drawing, figure drawing, oil painting, aqueous painting, printmaking, crafts, sculpture.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

# Visual Arts History (VAHis)

## Undergraduate Courses

**111. Introduction to Art History.** (3:3:0) Honors also.
Topical approach to art history and appreciation.

**201. World Civilization to 1500.** (3:3:0)
Survey of Western civilization emphasizing the visual arts from ancient Greece to the Gothic period.

**202. World Civilization Since 1500.** (3:3:0)
Survey of Western civilization emphasizing the visual arts from the Renaissance to the twentieth century.

**211. Survey of Western Art 1.** (3:3:0) Independent Study only.
Art and architecture of the Western world from primitive through medieval.

**212. Survey of Western Art 2.** (3:3:0) Independent Study only.
Art and architecture of the Western world from Renaissance to contemporary.

**260. Survey of Western Architecture.** (3:3:0)
Evolutionary development of Western architecture from Greek through contemporary trends.

**290R. Special Studies in Art History.** (2–5:3:0 ea.)
Topics vary.

**300. Art Historical Methodology, Research, and Intensive Writing.** (3:3:0) Prerequisite: Art 211, 212.
Necessary skills to research and write in the field of art history.

**304. Greek Art.** (3:3:0) Prerequisite: Art 211 or instructor's consent.
History and appreciation of Greek art, with consideration of formative cultures.

**306. Roman Art.** (3:3:0) Prerequisite: Art 211 or instructor's consent.
Art and architecture of the Etruscans and Romans.

**310. Early Christian and Byzantine Art.** (3:3:0) Prerequisite: Art 211 or instructor's consent.
Survey of Christian art in the Roman and Byzantine Empire from ca. 200 to 1453.

**315. Early Medieval Art and Architecture.** (3:3:0) Prerequisite: Art 211 or instructor's consent.
Art and architecture of Western Europe and Islam from A.D. 500 to 1050.

**317. Romanesque/Gothic Art and Architecture.** (3:3:0) Prerequisite: Art 211 or instructor's consent.
Major monuments in architecture, sculpture, and painting from the Romanesque and Gothic periods.

**320. Italian Renaissance Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
Major artists, monuments, and influences of the Renaissance.

**325. Northern Renaissance Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
Fifteenth- and sixteenth-century art in northern Europe.

**330. Southern Baroque Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
History of baroque painting, sculpture, and architecture in Italy, Spain, and France.

**335. Northern Baroque Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
Baroque painting in Flanders and Holland.

**340. Nineteenth-Century European Art.** (3:3:0) Independent Study also. Prerequisite: Art 212 or instructor's consent.
Nineteenth-century art in Europe.

**345. American Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
American painting and sculpture from colonial through modern times.

**350. Modern Art.** (3:3:0) Independent Study also. Prerequisite: Art 212 or instructor's consent.
Modern European art and theory, 1900–1945.

**355. Contemporary Art.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
Critical evaluation of trends in art since 1945.

**363. English Architecture, 1485–1900.** (3:3:0)
English architecture from Tudor through Victorian period.

**365. American Architecture.** (3:3:0)
Major figures, monuments, and movements in American architecture from colonial period through "Gilded Age."

**367. Modern Architecture.** (3:3:0) Prerequisite: Art 212 or instructor's consent.
Critical review of roots and evolution of modern architecture.

**399R. Cooperative Education Internship.** (1–8:0:0 ea.)
On-the-job experience. Project approval required before registration.

**400R. Individual Study in Art History.** (1–3:Arr.:Arr. ea.) Prerequisite: Art 211, 212, 300.

**490R. Special Topics and Readings in Art History.** (3:3:0 ea.)
Topics of specific student interest, centered on strengths of visiting faculty, BYU Study Abroad Program, or other significant art history projects.

**495R. Art History Seminar.** (3:3:0 ea.) Prerequisite: Art 211, 212, 300.
Restrictive topic in selected area of art history.

**499R. Honors Thesis.** (1–6:0:0 ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**504. Greek Art.** (3:3:0.5) Prerequisite: Art 211, 212, 300.
History and appreciation of Greek art, with consideration of formative cultures.

**506. Roman Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Art and architecture of the Etruscans and Romans.

**510. Early Christian and Byzantine Art.** (3:3:1)
Survey of Christian art in the Roman and Byzantine Empire from ca. 200 to 1453.

**515. Early Medieval Art and Architecture.** (3:3:1) Prerequisite: Art 211, 212, 300, or instructor's consent.
Art and architecture of Western Europe and Islam from A.D. 500 to 1050.

**517. Romanesque/Gothic Art and Architecture.** (3:3:1) Prerequisite: Art 211, 212, 300.
Major monuments in architecture, sculpture, and painting from the Romanesque and Gothic periods.

**520. Italian Renaissance Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Major artists, monuments, and influences of the Renaissance.

**525. Northern Renaissance Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Fifteenth- and sixteenth-century art in northern Europe.

**530. Southern Baroque Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
History of baroque painting, sculpture, and architecture in Italy, Spain, and France.

**535. Northern Baroque Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Baroque painting in Flanders and Holland.

**540. Nineteenth-Century European Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Nineteenth-century art in Europe.

**545. American Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
American painting and sculpture from colonial through modern times.

**550. Modern Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Modern European art and theory, 1900–1945.

**555. Contemporary Art.** (3:3:1) Prerequisite: Art 211, 212, 300.
Critical evaluation of trends in art since 1945.

**560. Western Architecture.** (3:3:0)
Critical evaluation of major movements in Western architecture.

**563. English Architecture, 1485–1900.** (3:3:0) F even yr.
English architecture from Tudors through Victorian period.

**565. American Architecture.** (3:3:0)
Major figures, monuments, and movements in American architecture from colonial period through "Gilded Age."

**567. Modern Architecture.** (3:3:0)
Critical review of roots and evolution of modern architecture.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Visual Arts Studio (VAStu)

### Undergraduate Courses

**100. Introduction to Art.** (1:1:0)
Basic form, content, and art processes through lectures, demonstrations, and studio and gallery visits.

**103. Introduction to Drawing.** (2:1:3)
Basic drawing techniques and concepts.

**104. Introduction to Sculpture.** (2:1:3)
Basic sculpture processes, including clay modeling and stone carving. Fee.

**105. Introduction to Ceramics.** (2:1:3)
Basic methods and processes of forming and glazing original ceramic objects. Fee.

**106. Introduction to Printmaking.** (2:1:3)
Basic techniques in etching and woodcut. Fee.

**107. Introduction to Oil Painting.** (2:1:3)
Basic concepts and techniques of oil painting.

**108. Introduction to Watercolor.** (2:1:3)
Basic concepts and techniques of watercolor.

**109. Introduction to Calligraphy.** (2:1:3) Independent Study also.
Basic skills in hand lettering.

**200. Studio Techniques for Art History.** (3:3:0)
Introduction to art techniques, materials, and practices directed toward art history majors.

**203R. Drawing 2.** (2:1:3 ea.) Prerequisite: Art 103.
Extended work in basic drawing techniques.

**204R. Sculpture 2.** (2:1:3 ea.) Prerequisite: Art 104.
Extended work in sculpture processes, including modeling and carving. Fee.

**205R. Ceramics 2.** (2:1:3 ea.) Prerequisite: Art 105.
Extended methods of creating original ceramic objects, including glaze mixing, kiln firing, and research techniques. Fee.

**206R. Printmaking 2.** (2:1:3 ea.) Prerequisite: Art 106.
Extended work in silkscreen, etching, and woodcut. Fee.

**207R. Painting 2.** (2:1:3 ea.) Prerequisite: Art 107.
Continuation of Art 107.

**208R. Watercolor 2.** (2:1:3 ea.) Prerequisite: Art 108.
Continuation of Art 108.

**209. Calligraphy 2.** (2:1:3) Prerequisite: Art 109.
Spencerian alphabet and design. Problems in applying various handmade and transfer alphabets.

**214. Aqueous Media Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation in aqueous media.

**215. Painting Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation painting.

**216. Ceramics Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation ceramics. Fee.

**217. Sculpture Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation sculpture. Fee.

**218. Intaglio Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation printmaking. Fee.

**219. Lithography Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation printmaking. Fee.

**220. Drawing Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation drawing.

**221. Figure Drawing Fundamentals.** (1.5:1:2) Prerequisite: foundation core.
Foundation figure drawing.

**230R. Bookbinding.** (3:3:0 ea.)
Traditional approaches to hand bookbinding.

**321R. Drawing.** (3:1:5 ea.) Prerequisite: foundation core and Art 220.
Drawing as a graphic form of self-expression, emphasizing personal statement in response to various experiences and concepts.

**322R. Figure Drawing.** (3:1:5 ea.) Prerequisite: foundation core and Art 221.
Drawing from the human figure, emphasizing structure and anatomy.

**327R. Painting.** (3:3:3 ea.) Prerequisite: foundation core and Art 215.
Fundamental concepts and techniques of oil painting.

**328R. Figure Painting.** (3:2:4 ea.) Prerequisite: foundation core and Art 215, 322, 327.
Fundamentals of figure painting.

**333R. Aqueous Media.** (3:2:4 ea.) Prerequisite: foundation core and Art 214.
Aqueous media on paper, emphasizing use of transparent watercolor.

**340R. Letterpress.** (3:3:0 ea.)
Fundamentals of hand printing, typography, and design using traditional letterpress techniques.

**349R. Printmaking: Relief/Screen.** (3:2:4 ea.) Prerequisite: foundation core.
Relief and screen printmaking materials and procedures. Fee.

**350R. Printmaking: Intaglio.** (3:2:4 ea.) Prerequisite: foundation core and Art 218.
Intaglio printmaking, based on traditional and contemporary techniques. Fee.

**351R. Printmaking: Lithography.** (3:2:4 ea.) Prerequisite: foundation core and Art 219.
Lithography printmaking, based on traditional and contemporary techniques. Fee.

**353R. Computer Art.** (3:2:4 ea.) Prerequisite: instructor's consent.
Exploring the computer as a tool for visual self-expression.

**354R. Craft Processes.** (3:1:5 ea.) Prerequisite: foundation core.
Exploration in crafts using a variety of materials. Fee.

**355R. Stained Glass.** (3:2:4 ea.)
Methods and processes using leaded glass, copper, foil, and faceted glass. Fee.

**356R. Figure Sculpture.** (3:1:5 ea.) Prerequisite: foundation core and Art 217, 221.
Modeling the human figure in clay. Fee.

**358R. Sculpture.** (3:1:5 ea.) Prerequisite: foundation core and Art 217, 220.
Traditional and nontraditional approaches to sculpture. Fee.

**359R. Ceramics.** (3:2:4 ea.) Prerequisite: foundation core and Art 216, 217.
Designing, throwing, hand forming, decorating, glazing, and firing techniques. Fee.

**390. Color.** (2:2:0) Prerequisite: Art 120.
Analysis of color theories, including intuitive and structured application.

**395R. BFA Seminar.** (1:1:0 ea.) F, W Prerequisite: acceptance into BFA program.
Examination of selected contemporary issues.

**398. Readings.** (2:2:0) Prerequisite: Art 121.
Directed readings in significant issues and ideas in the visual arts.

**421R. Drawing Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 321R or 322R and admission by portfolio.
Developing individual expressive strengths in drawing.

**422R. Figure Drawing Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 322R and admission by portfolio.
Developing individual drawing skill related to the human figure.

**423R. Intensive Studio.** (1–10:Arr.:Arr. ea.) Prerequisite: foundation core, instructor's consent, and portfolio review.
Selective, individual study.

**427R. Painting Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 327R and admission by portfolio.
Developing individual concepts and techniques in painting.

**428R. Figure Painting Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 322R, 327R, 328R, and admission by portfolio.
Advanced figure study.

**430. History and Development of the Codex: Greek Through Fourth Century** (3:1:2) F Prerequisite: Art 230R and/or instructor's consent.
Historical survey of the ancient codex, including studio bookmaking projects recapitulating development of bookmaking craft of Greek period through fourth century.

**431. History and Development of the Codex: Fifth Through Eighteenth Centuries.** (3:1:2) W Prerequisite: Art 430 and instructor's consent.
Historical survey of the ancient codex, including studio bookmaking projects recapitulating development of bookmaking craft of fifth through eighteenth centuries.

**450R. Intaglio Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 350R and admission by portfolio.
Advanced work in intaglio, monotype, relief. Fee.

**451R. Lithography Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 350R, 351R, and admission by portfolio.
Advanced work in lithography. Fee.

**456R. Sculpture Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 356R or 358R and admission by portfolio.
Advanced study in sculpture: traditional and nontraditional approaches. Fee.

**459R. Ceramic Studio.** (1–9:Arr.:Arr. ea.) Prerequisite: Art 359R and admission by portfolio.
Exploratory experience with advanced methods in ceramics. Research emphasis on clay bodies, glazes, and constructing and operating kilns. Fee.

**494R. Special Problems in Art.** (1–3:0:0 ea.) Prerequisite: instructor's consent.

**497R. BFA Final Project.** (3:0:0 ea.)

## 500-Level Graduate Courses (available to advanced undergraduates)

**540. Business Practices for Artists.** (2:2:0)

**541. Art Presentation.** (3:1:2) Prerequisite: Art 114–121, 214–221.
Methods of presenting art work. Topics include: archival techniques for matting works on paper; framing methods and aesthetic concerns; handling, packing, and shipping works of art; photographing art; portfolio preparation; entering competitions.

**594R. Special Problems.** (1–6:0:Arr. ea.) Prerequisite: graduate status and instructor's and department's consent.

**595R. Seminar.** (1:0:0 ea.)
Student and faculty analysis of curriculum relationships, projection of student objectives, contemporary topics, and visits to current exhibits.

**596. Print Studies Workshop: Contract Printing.** (1–3:0:20) Sp, Su Prerequisite: Art 451R or equivalent.
Professional contract studio, producing limited edition lithographs for college collections, national galleries and museums, and investors. Business, law, and contemporary trends.

**598R. Readings.** (1–3:2:0 ea.)
Graduate readings in the visual arts.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Visual Arts Faculty

**Professors**

Barrett, Robert (1982) BFA, U. of Utah, 1973; MA, MFA, U. of Iowa, 1975, 1976.
Barsch, Wulf E. (1974) BFA, Werkkünstschule-Hanover, West Germany, 1968; MA, MFA, Brigham Young U., 1970, 1971.
Christensen, James Cal (1976) BA, MA, Brigham Young U., 1967, 1968.
Cindrich, Lawrence A. (1983) BFA, Carnegie Mellon U., 1959; MFA, Cranbrook Academy of Art, 1961.
Day, Michael D. (1983) BA, Brigham Young U., 1961; MA, San Jose State U., 1968; EdD, Stanford U., 1973.
Kimball, W. Wayne, Jr. (1984) BA, Southern Utah State Coll., 1968; MFA, U. of Arizona, 1970.
Marshall, John F. (1971) BFA, MA, Brigham Young U., 1966, 1968.
Marshall, Robert L. (1969) BA, MA, Brigham Young U., 1966, 1968.
Myer, Peter L. (1972) BA, Brigham Young U., 1956; MFA, U. of Utah, 1959.
Stout, W. Douglas (1969) BFA, U. of Utah, 1958; MS, Illinois Inst. of Technology, 1961; PhD, U. of Utah, 1977.

**Associate Professors**
Allen, Von (1984) BA, MA, Edinboro State Coll., 1973, 1976; MFA, Syracuse U., 1983.
Barrus, Wallace M. (1969) BS, Brigham Young U., 1964; MFA, Utah State U., 1975.
Bule, Steven (1984) BA, Brigham Young U., 1976; PhD, Ohio State U., 1987.
Hadlock, Neil (1990) BFA, MFA, Brigham Young U., 1966, 1971.
Haltern, Hagen G. (1978) BFA, Fachhochschule, Cologne, West Germany, 1972; MFA, Kunstakademie, Düsseldorf, Germany, 1976.
Hamilton, Charles Mark (1974) BA, Brigham Young U., 1967; MA, U. of Utah, 1972; PhD, Ohio State U., 1978.
Hill, Sherron D. (1981) BS, Weber State Coll., 1965; MA, PhD, U. of Iowa, 1971, 1973.
Johnson, Mark J. (1987) BA, Brigham Young U., 1979; MA, U. of Illinois, 1983; MFA, PhD, Princeton U., 1984, 1986.
Peacock, Martha M. (1987) BA, Brigham Young U., 1978; MA, PhD, Ohio State U., 1985, 1989.
Pulfer, Adrian (1985) BFA, Brigham Young U., 1988.
Smith, Bruce Hixson (1977) BA, Brigham Young U., 1964; MFA, U. of Utah, 1968.
Taylor, David A. (1978) BA, BA, MA, Brigham Young U., 1972, 1976, 1982.

**Assistant Professors**
Adams, Brent (1990) MFA, U. of Utah, 1992.
Beattie, Donna Kay (1989) BSE., Emporia State U., 1963; MA, U. of Missouri, 1985; PhD, U. of Kansas, 1990.
Christensen, Brian D. (1993) BFA, Brigham Young U., 1990; MFA, Washington U., 1993.
Hull, Richard (1987) BFA, Brigham Young U., 1987.
Moss, LaVelle R. (1987) BS, U. of Utah, 1964; MA, Brigham Young U., 1969.
Nielson, Karla (1974) BA, MA, Brigham Young U., 1974, 1979.
Ostraff, Joseph E. (1993) BFA, Brigham Young U., 1982; MFA, U. of Washington, 1984.
Sipherd, John W. (1976) BS, Utah State U., 1962; MA, California State U., Los Angeles, 1964.
Stimpson, Miriam (1973) BS, MA, Brigham Young U., 1966, 1972.
Sullivan, Linda (1991) BA, Brigham Young U., 1981; MFA, U. of Utah, 1993.
Telford, John (1990) MFA, U. of Utah, 1988.

**Visiting Assistant Professor**
Barton, Garold C. (1994) BFA, Brigham Young U., 1989; MFA, Ohio State U., 1994.

**Instructors**
Heaton, Pattie (1973) BA, Brigham Young U., 1973.
Heiner, Gloria (1978) BA, Brigham Young U., 1976.
Mead, Sherrill (1976) BA, U. of Oregon, 1966; BA, Brigham Young U., 1977.
Viehweg, Ross (1969) BA, BS, Rice U., 1957, 1957.

**Special Instructors**
Ralph Barksdale, Julee Braithwaite, Milo Baughman, Jim Knight, Ken Lindquist, Frank Nackos, Kevin Scholz, Shari Warnick.

**Emeriti**
Alder, Lorna C. (1960) BS, Brigham Young U., 1935; MA, Columbia U., 1940.
Allen, Murray F. (1969) BS, U. of Utah, 1947; MA, Brigham Young U., 1968.
Allen, Phyllis Sloan (1968) BA, U. of California, Berkeley, 1931.
Breinholt, Floyd E. (1961) BS, MEd, Brigham Young U., 1937, 1953.
Dansie, R. E. (Ted) (1972) BA, Brigham Young U., 1972.
Darais, Alexander B. (1954) BS, Brigham Young U., 1948; MFA, Claremont Graduate School, 1952.
Eddington, Keith (1979) BA, MFA, U. of Utah, 1947, 1950.
Gunn, Richard L. (1948) BS, MS, Brigham Young U., 1947, 1950; EdD, Stanford U., 1955.
Johansen, Franz M. (1956) BA, MA, Brigham Young U., 1955, 1960.
Magleby, Francis R. (1959) BS, MS, Brigham Young U., 1950, 1951; EdD, Columbia U., 1967.
Raty, Thomas Laine (1963) BS, MS, Brigham Young U., 1950, 1961; EdD, Arizona State U., 1985.
Takasaki, Fred Y. (1961) BA, MA, Brigham Young U., 1953, 1958; MA, U. of Michigan, 1968.
Tippetts, Frank M. (1958) BA, MA, Brigham Young U., 1953, 1962; EdD, Arizona State U., 1968.
Weaver, Max D. (1961) BS, MA, Utah State U., 1949, 1955.
Wilson, Warren B. (1954) BS, Utah State U., 1943; MFA, U. of Iowa, 1949.

## Welsh

See Linguistics.

# Women's Research Institute

Bonnie Ballif-Spanvill, Director
978 SWKT, (801) 378-4609

College of Family, Home, and Social Sciences Advisement Center
2254 SFLC, (801) 378-3541

## Research and Scholarship

The Women's Research Institute seeks to promote the scholarly investigation of female perspectives and experiences in diverse cultural and historical contexts. It provides access to a worldwide network of scholarship through the ongoing collaborative research it directs and its sponsorship of academic conferences and visiting scholars. Research projects focusing on women's unique patterns of development and learning, their viewpoints and contributions, and their involvement in families, religions, and societies throughout the world are created and funded through the institute. The institute also houses a minor in women's studies.

## Women's Studies Discipline

The women's studies minor educates students in the findings, theories, and methodologies fundamental to the women's studies field, while fostering critical thinking and superior scholarship. Considering traditional academic discourse from the female perspective allows new insights into our historical and cultural traditions.

## Career Opportunities

A women's studies minor enhances and broadens educational and employment opportunities in any discipline or field. The women's studies minor trains students to look at issues and questions from unique perspectives, develop research skills, learn current theory, and deal with practical gender issues in society. This training prepares students to be more successful in graduate and professional schools, business and industry, and government or community service.

## Minor Women's Studies (18.5 hours)

1. Complete the following:
   WS 222, 392R, 492.
   Soc 367.
2. Select two courses from the following:
   Engl 396.
   FamSc 371.
   Hist 384.
   Soc 323.
3. Select one course from the following:
   Art 415R.
   Engl 495, 510.
   FamSc 367, 395R, 461.
   Germ 441R, 498R.
   Hlth 403R.
   Hist 382, 394R, 398.
   HonP 228R, 241R.
   Psych 308.
   SocW 390R.
   Soc 460.

   **Note:** To qualify as an elective toward a minor in women's studies, courses must contain specific subject matter emphasizing women's studies. Periodically departments offer appropriate courses not listed above. See the Women's Research Institute each semester for current elective courses.

## Women's Studies Courses (WS)

**222. Introduction to Women's Studies.** (3:3:0)
Survey of scholarship about women's lives; new historical, sociological, psychological, and literary approaches that inform our understanding of women's experience.

**392R. Women's Studies Colloquium.** (0.5:Arr.:0 ea.)
Scholarly findings presented by researchers in the field on topics relating to women's lives and experiences throughout history, across the world, and within ethnic, educational, and economic segments of society.

**492. Women's Studies Senior Research Seminar.** (3:3:0)
Prerequisite: WS 222.
Synthesis of interdisciplinary studies of women; comparative analysis of methods used in research on women; group or individual senior research papers required.

# Youth Leadership

See Recreation Management and Youth Leadership.

# Zoology

Richard R. Tolman, Chair
574 WIDB, PO Box 25254, (801) 378-2006

College of Biology and Agriculture Advisement Center
380 WIDB, PO Box 25189, (801) 378-3042

## Admission to Degree Program

All degree programs in the Department of Zoology are open enrollment. However, special limitations apply for teaching majors.

## The Discipline

Students majoring in zoology take a balanced core of courses. This provides a broad background in zoology, introduces scientific reasoning, develops skills in hypothesis formulation and testing, and develops the ability to make educated decisions, especially on biological issues.

## Career Opportunities

Students who major in zoology and demonstrate academic competence find numerous employment options, ranging from technical work in research laboratories to field technicians for environmental research companies. Majors may develop expertise and interest in such diverse areas as environmental biology, evolutionary biology, freshwater biology, human biology, marine biology, molecular biology, pest control, taxonomy, and wildlife management.

Students who complete the zoology core course requirements and take the recommended chemistry, mathematics, and physics courses satisfy the requirements for medical and dental schools, as well as for graduate studies in almost all areas of biological teaching and research. Those planning to teach biology and general science in secondary school or biology in junior college may also certify with a major in this department.

Selecting a major like zoology is very important because not all who wish to enter a professional school such as medical, dental, law, or business school are accepted. The selected major should be in an area that best fulfills the interests, personal needs, and alternative career plans of the student while also fulfilling the fundamental requirements for professional schools. The zoology curriculum is not only intellectually rewarding to the serious student, but it is also rigorous enough to prepare students for careers in a wide variety of professional fields.

Premedical or predental students with an interest in biological science may wish to consider a zoology option like human biology and still complete all courses needed for entering a professional school. All students can receive advisement and letters of recommendation from the university's Preprofessional Advisement Center. Its patrons have an excellent acceptance record.

## Graduation Requirements

To receive a bachelor's degree a student must fill three groups of requirements: (1) general education requirements; (2) university requirements; and (3) major requirements.

### General Education Requirements

Please see your college advisement center for information about general education courses you should take to dovetail with your major program.

**Languages of Learning**

| | |
|---|---|
| Precollege Math (none to three courses) (or Math ACT score of at least 22) | 0–3.0 hours |
| First-Year Writing (one course) | 3.0 |
| Advanced Writing (one to four courses) (Engl 316 is highly recommended.) | 3–8.0 |
| Advanced Languages/Math/Music (one to four courses) | 3–20.0 |

**Liberal Arts Core**

| | |
|---|---|
| Biological Science (one to two courses) | 3–6.0 |
| Physical Science (one to two courses) | 3–7.0 |
| American Heritage (one to two courses) | 3–6.0 |
| Wellness (one to three courses) | 1.5–3.0 |
| History of Civilization (two courses) | 6.0 |

**Arts and Sciences Electives**

| | |
|---|---|
| Arts and Letters (one course) | 3.0 |
| Natural Sciences (one course) | 3–4.0 |
| Social and Behavioral Sciences (one course) | 3.0 |

**Note 1:** For a complete list of courses that will fill each GE category, see the General Education section of the current class schedule.

**Note 2:** Additional information about general education requirements can be found in the General Education section of the current class schedule or this catalog.

### Minimum University Requirements

| | |
|---|---|
| Religion | 14.0 |
| Upper-division hours | 40.0 |
| Residency | 30.0 |
| Total hours | 128.0 |

Cumulative GPA must be at least 2.0.

**Note:** See the Graduation section of this catalog for more information.

### Major Requirements

Complete the major requirements listed under one of the following undergraduate degree programs.

## Undergraduate Programs and Degrees

BS Zoology
Emphases:
- Entomology
- Human Biology
- Premedical-Predental

BS Conservation Biology
Emphases:
- Wildlife Biology
- Ecology and Systematics

BS Honors in Zoology and University Honors
BS Molecular Biology
BS Biology Composite Teaching
Minors Biology Teaching
Zoology

For help or information on the undergraduate programs, please see your college advisement center.

## Graduate Programs and Degrees

MS Zoology
MS Biological Science Education
MS Molecular Biology (collegewide interdisciplinary degree)

PhD Zoology
PhD Molecular Biology (collegewide interdisciplinary degree)

For more information see the 1996–97 BYU Graduate Catalog.

## BS Zoology (53–61 hours*)

**Major Requirements**

1. Complete the following:
   Biol 130.
   Zool 204, 350, 371, 372, 373, 374, 460, 475.
2. Select at least 6 hours from the following:
   Zool 312, 317, 318, 330, 331, 338M, 344, 351, 361, 363, 380, 402, 410, 414, 416, 418, 443, 445, 446, 447, 457, 470, 472, 484, 526, 532, 536, 537, 540, 546, 547, 556, 561, 562, 565, 566, 572, 585.
3. Select one course from the following:
   Math 112 or 119 (prerequisite: Math 110 or equivalent).
4. After consulting with a faculty advisor, select one of the following chemistry options:
   **Either** Chem 105, 106, 107, 351, 352, 353 (1 or 2 hours; see MAPs)
   **Or** Chem 101, 103, 152, 281
   **Or** Chem 105, 106, 107, 152.
5. Select one of the following physics options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Zoology: Entomology Emphasis (65–74 hours*)

**Major Requirements**

1. Complete the following:
   Biol 130.
   Zool 204, 330, 331, 350, 351, 371, 372, 373, 460, 475, 532, 536, 537.
2. Select one course from the following:
   Math 112 or 119 (prerequisite: Math 110 or equivalent).
3. Select one course from the following:
   Stat 222, 501.
4. After consulting with a faculty advisor, select one of the following chemistry options:
   **Either** Chem 105, 106, 107, 152
   **Or** Chem 105, 106, 107, 351, 352, 353
   **Or** Chem 101, 103, 152, 281.
5. Select one of the following physics options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.

**Recommended Courses**

Mcbio 221, 222.
Botny 210.

*Hours include courses that may fulfill GE or university requirements.

## BS Zoology: Human Biology Emphasis (72–75 hours*)

**Major Requirements**

1. Complete the following:
   Biol 130.
   Zool 204, 260, 350, 371, 372, 373, 374, 460, 475.
2. Select one of the following options:
   **Either** RelC 491, 492
   **Or** Zool 338M.

   **Note:** RelC 491 and 492 are to be taken simultaneously; because these courses are the same as Zool 338M, you may register for RelC 491 and 492 or for Zool 338M, but not for both.
3. Select two courses from the following (not more than one class from each department):
   Anthr 300.
   FamSc 210, 360.
   FSN 100, 200.
   Hlth 451, 460.
   Mcbio 221, 311.
4. Complete the following:
   Chem 105, 106, 107, 351, 352, 353.
   Phscs 105, 106, 107, 108.
5. Select one course from the following:
   Math 112 or 119. (Prerequisite: Math 110 or equivalent.)
6. Select one course from the following:
   Chem 481.
   Zool 317, 361, 380, 484, 526, 561, 565, 585.
7. Select one course from the following:
   Psych 350, 359, 370, 375, 381, 382.
   Zool 562.

   **Note:** Psych 350 and Soc 350 are the same course. Only one should be taken.
8. Select one course from the following:
   Soc 311, 329, 345, 350, 365, 389.

   **Note:** Psych 350 and Soc 350 are the same course. Only one should be taken.

*Hours include courses that may fulfill GE or university requirements.

## BS Zoology: Premedical-Predental Emphasis (60–61 hours*)

**Major Requirements**

1. Complete the following:
   Biol 130.
   Zool 204, 350, 371, 372, 373, 374, 460, 475.
2. Select at least 6 hours from the following:
   Range 551, 552.
   Zool 312, 317, 318, 330, 331, 338M, 344, 361, 363, 380, 402, 410, 414, 416, 418, 443, 445, 446, 447, 457, 470, 472, 484, 526, 532, 536, 537, 540, 546, 547, 556, 561, 562, 565, 566, 572, 585.
3. Select one course from the following:
   Math 112, 119 (prerequisite: Math 110 or equivalent).
4. Complete the following:
   Chem 105, 106, 107, 351, 352, 353 (1 or 2 hours; see MAPs).

5. After consulting with a preprofessional advisor, select one of the following options:
   **Either** Phscs 105, 106, 107, 108
   **Or** Phscs 121, 122, 221.

*Hours include courses that may fulfill GE or university requirements.

## BS Conservation Biology: Wildlife Biology Emphasis (62–64 hours*)

A student with this emphasis fulfills the requirements suggested by the Wildlife Society for its Professional Wildlife Biology Certification Program and qualifies on the federal register for employment as a wildlife biologist.

**Major Requirements**

1. If planning to attend graduate school, consult your advisor before the end of the first year in this program. A different preparation may be advantageous depending on your postgraduate plans.
2. Complete the following:
   Biol 130.
   Botny 210.
   Range 505.
   Zool 204, 446, 447, 470, 475.
3. Select two courses from the following:
   Botny 321, 515, 527.
   Range 330, 455.
4. Complete the following:
   Chem 101, 103, 152.
   Stat 222.
   Zool 371, 372.
5. Select one course from the following:
   Math 112 or 119 (prerequisite: Math 110 or equivalent).
6. Select two courses from the following:
   Range 225, 565.
   Zool 457.
7. Select one course from the following:
   Botny 350.
   Range 354.
   Zool 350.
8. Select one course from the following:
   Botny 351.
   Range 351.
   Zool 351.
9. Select one course from the following:
   Botny 440.
   Chem 281.
   Zool 460.
10. To qualify for National Wildlife Society certification, complete the following:
    a. Complete 3 hours of humanities and social science courses beyond GE requirements.
    b. Complete 6 hours of communications courses beyond GE requirements. Recommended: Comms 150.
    c. Complete 2 additional hours of math or computer science.
    d. Complete 3 additional hours of policy, administration, and law credit beyond Range 505. Recommended: PlSc 110, 340, Econ 240.

**Recommended Courses**

AgHrt 282.
Geog 310, 401, 515.
PlSc 535, 536.
Range 470.
Zool 331, 556.

*Hours include courses that may fulfill GE or university requirements.

## BS Conservation Biology: Ecology and Systematics Emphasis (60–67 hours*)

**Major Requirements**

1. If considering graduate school, see an advisor for direction within the first year.
2. Complete the following:
   Biol 130.
   Botny 210.
   Zool 204, 350, 351, 371, 372, 373, 475.
3. Select one course from the following:
   Botny 400, 407.
   Zool 470.
4. Select one course from the following:
   Botny 440.
   Zool 460.
5. Select 4 hours from the following:
   Zool 317, 331, 344, 402, 443, 445, 446, 447.
6. Select one course from the following:
   Zool 312, 363, 410, 493, 532, 536, 537, 540, 546, 547, 556.
7. Complete the following:
   Phscs 105, 106.
8. Select one course from the following:
   Stat 222, 501.
9. Select one of the following chemistry options:
   **Either** Chem 101, 103, 152, 281
   **Or** Chem 105, 106, 107, 152, 281.
10. Select one course from the following:
    Math 112 or 119 (prerequisite: Math 110 or equivalent).

**Recommended Courses**

If time permits, some of the following courses may be useful (see advisor):
AgHrt 282, 283.
Botny 400, 405, 510, 520, 539, 550, 554.
CS 130.
Econ 440.
Geog 212, 310, 331, 401.
Geol 480.
Mcbio 441, 442.
PlSc 330, 340, 535, 536.
Range 225, 330, 455, 505, 565.
Zool 374.

*Hours include courses that may fulfill GE or university requirements.

## BS Honors in Zoology and University Honors

For more information on this degree program, see your college advisement center.

See also the University Honors Education section of this catalog.

## BS Molecular Biology (65–66 hours*)

**Major Requirements**

1. Select one course from the following:
   Math 112, 119. (Prerequisite: Math 110 or equivalent.)
2. Complete the following:
   Chem 105, 106, 107, 351, 352, 353 (1 hour), 481.
3. Select one of the following physics options (the first is preferred):
   **Either** Phscs 121, 122, 221
   **Or** Phscs 105, 106, 107, 108.
4. Complete the following:
   Biol 130.
   Mcbio 351 (3 hours), 441.
   Zool 204, 350, 371, 372, 373, 374, 460, 475.
5. Select one course from the following:
   Chem 586.
   Mcbio 442.
   Zool 472.

*Hours include courses that may fulfill GE or university requirements.

## BS Biology Composite Teaching (94–98 hours,* including certification hours)

**Major Requirements**

1. Complete the following:
   Biol 130.
   Botny 105, 205.
   Geol 101.
   Math 110.
   Mcbio 221, 222.
   Phscs 105, 106.
   Zool 204, 260, 261, 276, 331, 344, 350, 475, 493.
2. Select one of the following chemistry options:
   **Either** Chem 101, 152, 281
   **Or** Chem 105, 106, 107, 351.
3. Complete the Professional Education Component (30–31 hours): see the Secondary Education section of this catalog for certification requirements.

**Recommended Courses**

AgHrt 282, 283.
Botny 120, 210, 321, 331, 332, 480, 527.
Geol 103, 111, 112.
Math 111, 119.
Mcbio 311.
Range 225, 565.
Zool 312, 317, 330, 334, 363, 371, 372, 380, 445, 446, 447, 460, 561, 562.

*Hours include courses that may fulfill GE or university requirements.

## Minor Biology Teaching (29–30 hours*)

1. Complete the following:
   Botny 105.
   Botny-Zool 350, 475.
   Mcbio 221, 222.
   Zool 204, 276, 331.
2. Select one course from the following:
   Botny 205, 210.
3. Select one course from the following:
   Zool 260, 261.

*Hours include courses that may fulfill GE or university requirements.

## Minor Zoology (14 hours*)

1. Complete the following:
   Biol 130.
   Zool 204.
2. Select 6 hours from the following:
   Zool 350, 351, 371, 372, 373, 374, 460, 475.

*Hours include courses that may fulfill GE or university requirements.

# Zoology

## Undergraduate Courses

## Biology Courses (Biol)

See Biology Department for descriptions.

**+100. Principles of Biology. (3:3:0)**

**+101. Principles of Biology Laboratory. (1:0:2)**

**+130. Introduction to Biology. (4:5:0)**

**+398R. Biology Teaching Seminar. (1–2:0:0 ea.)**

## Zoology Courses (Zool)

**139. Freshman Premedical Seminar.** (0.5:0.5:0) F, W
Introduces freshman students to BYU premedical program.

**150. Environmental Biology.** (3:3:0) F, W, Su
Conservation and management of natural resources concurrent with increasing socioeconomic and human population demands.

**204. Vertebrate and Invertebrate Strategies.** (4:3:3) F, W, Su
Prerequisite: Biol 130 or instructor's consent.
Comparative organization and evolutionary significance of adaptive morphological, physiological, behavioral, reproductive, and ecological differences in vertebrates and invertebrates.

**205. Human Biology.** (3:3:0) F, W
Metabolism, physiology of nervous system, endocrinology, reproduction, embryology, and genetics. For nonbiology majors.

**221. History of Medicine.** (2:2:0) F Prerequisite: Zool 139.
Growth of medicine and its role in society, the art of medicine, intellectual and ethical legacy of earlier practitioners.

**227. Preview into Optometry.** (1:Arr.:0) F, W For sophomores and juniors.
Advantages and disadvantages of the optometric profession. Applying to and preparing for optometry school. For sophomores and juniors. Not acceptable for zoology major credit.

**229. Preview into Dentistry.** (1:Arr.:0) F, W For freshmen and sophomores.
Advantages and disadvantages of the dental profession. Application to and preparation for dental school. Not acceptable for zoology major credit.

**249M. Honors Introduction to Zoology.** (0.5:1:0) F
Presentation of major biological concepts and issues. Open to all zoology majors.

**260. Elementary Human Anatomy.** (3:2:2) F, W, Su Honors also.
Primarily for students of physical education, physical therapy, and nursing. Not acceptable for zoology major credit except for Human Biology emphasis.

**261. Elementary Human Physiology.** (4:3:2) F, W, Sp Honors also. Prerequisite: Chem 101 or equivalent. Recommended: one biology course. This course not equivalent to Zool 460.
Normal functions and integrations of major body organ systems. Not acceptable for zoology major credit.

**276. Human Heredity and Reproduction.** (3:3:0) F, W, Alt. term Prerequisite: any biology course or instructor's consent.
Principles of inheritance and reproduction for nonscience majors and biological education majors.

**312. Introduction to Marine Biology.** (3:3:0) W Prerequisite: Zool 204.
Marine life, the sea as an environment, and research methods.

**317. (Zool-Micro) Medical Parasitology.** (3:2:3) F Prerequisite: Biol 100 or equivalent.
Pathogenesis, diagnosis, and epidemiology of parasitic diseases of humans.

**318. Veterinary Parasitology.** (3:2:3) W odd yr.
Diagnosis, pathogenesis, and epidemiology of parasitic diseases of domestic animals.

**329. Dental School Preparation.** (2:1:1) F, W Prerequisite: Zool 229.
Practical experience in the areas of dental anatomy, terminology, carving teeth, and dental operatory techniques. Not acceptable for zoology major credit.

**330. Field Entomology.** (2:0:Arr.) Su even yr.
Training in field observation of insect habits and behavior in collecting, preparing, and preserving insects.

**331. Introductory Entomology.** (3:2:3) F, Su Prerequisite: Biol 100 or equivalent.
Structure, classification, and biology of insects and selected arthropod relatives.

**334. Appreciation of Nature.** (3:2:2) F, W, Sp Prerequisite: basic biology course.
Identifying common plants and animals; techniques for teaching natural history.

**338M. Bioethics.** (2:1:2) F, W Prerequisite: introductory biology course.
Lectures and small groups, in-depth discussion of a variety of bioethical issues. LDS Church positions emphasized when appropriate.

**339. Preview into Medicine.** (2:2:0) F, W For sophomore, junior, and transfer students.
Medical education (admission procedures, curriculum), medical specialties in practice, ethics, legal and governmental concerns, health care delivery systems, and related professions. Not acceptable for zoology major credit.

**344. Natural History of Wildlife.** (3:2:2) F, Sp Prerequisite: Zool 204.
Intensive study of selected vertebrate species stressing natural history and systematics. Designed to accommodate needs of biology teaching majors.

**349M. Senior Thesis Research Rotation.** (1:0:1) F, W, Sp, Su Prerequisite: Biol 130.
Individual research with three zoology faculty in preparation for selecting senior thesis topic.

**350. (Zool-Botny) Ecology.** (3:3:0) F, W, Sp Prerequisite: Zool 204 or Botny 105 or 210; Math 110.
Principles and theory of plant and animal ecology. Analyzing distribution and abundance of life on earth.

**351. (Zool-Botny) Ecology Laboratory.** (1:0:3) F, W, Sp Prerequisite: Botny-Zool 350 or concurrent registration.
Introduction to major ecological concepts through field or laboratory exercises, emphasizing appropriate methods for measuring variation under field conditions. Field trips and one major paper required.

**360. Dissection Techniques in Human Anatomy.** (2:1:3) W Prerequisite: Zool 260.
Techniques of human cadaveric dissection. In-depth study of anatomical structure and anatomically significant facts; regional rather than systemic emphasis.

**361. Pathophysiology.** (4:4:0) F, W, Sp Prerequisite: Chem 281 or 351 or concurrent registration in either; Zool 261 or 460.
Variations in physiological mechanisms that account for development of common disturbances of normal control and activities of organs and organ systems of the body.

**363. Comparative Vertebrate Anatomy.** (4:3:3) W Prerequisite: Zool 204.
Basic phylogenetic principles, classification, paleontology, and evolutionary history of vertebrates; anatomy, functional morphology, and adaptations of vertebrates.

**371. Molecular Biology.** (2:2:1) F, W, Sp Prerequisite: Biol 130; Chem 152, 351, or concurrent registration; Math 110.
Biochemistry of proteins and nucleic acids.

**372. Genetics.** (2:2:1) F, W, Sp Prerequisite: Zool 371.
General genetics integrated with molecular biology.

**373. Cellular Biology.** (3:3:1) F, W, Su Prerequisite: Zool 372; Chem 281 or 352.
Function of subcellular structures; physiological and developmental regulation of genes.

**374. Genetics and Cellular Biology Laboratory.** (1:0:3) F, W, Alt. term Prerequisite: Zool 372 or concurrent registration.

**380. Histology.** (4:3:3) F, W, Su Prerequisite: Biol 130 or equivalent.
Cellular and tissue structure of animals.

**399R. Cooperative Education: Zoology Internship.** (1–9:0:0 ea.) F, W, Sp, Su Prerequisite: department cooperative education coordinator's consent.
On-the-job experience with government, industry, etc.

**402. Advanced Invertebrate Zoology.** (5:4:2) F even yr. Prerequisite: Zool 204.
Functional morphology, cladistics, ecology, behavior and interrelationships of invertebrates.

**410. Freshwater Biology.** (3:2:3) F odd yr. Prerequisite: Zool 204, 350.
Biology, systematics, ecology, and distribution of freshwater organisms. Field trips required.

**414. Marine Ecology.** (3:2:3) Sp Prerequisite: Zool 312 and instructor's consent.
Principles of marine ecology of planktonic, sublittoral, rocky shore, sandy shore, and mudflat communities. Extensive field trips.

**416. Development of Marine Animals.** (2:0:6) Sp Prerequisite: Zool 312 and instructor's consent.
Techniques of culturing, studying, and reporting on the development of eggs, embryos, and larvae of marine animals.

**418. Aquaculture.** (3:2:2)W even yr.
Programs and methods for the culturing of economic freshwater and marine animals.

**429. Clinical Observation for Predental Students.** (2:1:3) F, W, Sp Prerequisite: Zool 329.
Experience in local dental offices for junior and senior predental students. Not acceptable for zoology major credit.

**439. Clinical Observation for Premedical Students.** (2:1:3) F, W, Sp Prerequisite: Zool 339; junior or senior standing and instructor's consent.
Observing with practicing physician and in hospitals. Not acceptable for zoology major credit.

**443. Ichthyology.** (3:2:3) F odd yr. Prerequisite: Zool 204.
In-depth study of fish systematics, evolution, morphology, distribution, and natural history.

**445. Herpetology.** (4:3:2) W odd yr. Prerequisite: Zool 204.
In-depth study of reptile and amphibian evolution, systematics, morphology, distribution, and natural history. Lab emphasizes taxonomy, classification, and distribution of western U.S. species.

**446. Ornithology.** (3:2:2) W Prerequisite: Zool 204.
In-depth study of avian systematics, evolution, distribution, and natural history.

**447. Mammalogy.** (3:2:2) W Prerequisite: Zool 204.
In-depth study of mammalian diversity, distribution, and natural history. Three-day field trip required.

**449R. Undergraduate Research.** (1–3:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.
Maximum of 1 hour's credit may be used in zoology elective toward graduation.

**457. Wildlife and Fishery Management Techniques.** (3:2:3) W Prerequisite: Zool 350.
Practical study of current methods used to assess and manage wildlife and fish resources.

**460. Principles of Physiology.** (4:4:3) F, W, Sp Prerequisite: Zool 373; Phscs 106 or 221.
General physiological principles and control of organ systems.

**470. Biology of Conservation.** (3:3:0) F Prerequisite: Zool 204, 350.
Scientific principles of conservation, applications of population genetics and ecological theory to preservation of biological diversity, developing sustainable ecological systems compatible with human resource use.

**472. Molecular Biology Laboratory.** (2:0:6) F Prerequisite: Mcbio 441 or concurrent registration.
Molecular biology of gene expression, emphasizing eukaryotic organisms.

**475. (Zool-Botny) Evolutionary Science.** (3:3:0) F, W, Alt. term Prerequisite: Botny 210 or Zool 204; Botny-Zool 250 or 350; Botny or Zool 341 or Botny 376 or Zool 276; or consent of instructor.
Observed organic change and apparent history of life on earth. Comparing study methods, interpreting data, evaluating evidence.

**484. Human Embryology.** (3:3:0) Alt. sem. Prerequisite: Zool 204.
Developmental milestones of prenatal life; etiology of congenital malformations, emphasizing cellular changes and their functional consequences.

**493. History and Philosophy of Biology.** (3:2:1) F, W Prerequisite: zoology core courses through 475.
Development of fundamental generalizations of biology; nature of science; applications to major philosophical issues of current science.

**499R. Senior Honors Thesis.** (1–3:0:3 ea.)
Honors thesis. Topic to be cleared with Honors Program Office and Zoology Department.

## 500-Level Graduate Courses (available to advanced undergraduates)

**503. Research Orientation.** (1:1:0) F
Departmental graduate procedures; techniques used in researching zoological literature. Required first fall semester of graduate study.

**515R. Advanced Science In-Service.** (1–5:Arr.:Arr. ea.)
In-service course for science teachers. Subjects may include:
—Advanced Topics Science In-Service
—Ecology Science In-Service
—Genetics Science In-Service
—Evolution Science In-Service
—Botany Science In-Service
—Meteorology Science In-Service

**526. (Zool-Botny) Cell Biology.** (3:3:0) F even yr. Prerequisite: introductory course in biochemistry.
Molecular physiology and ultrastructure of cells, emphasizing eukaryotic organisms.

**532. Insect Classification.** (4:1:9) W odd yr. Prerequisite: Zool 331. Recommended: Zool 330.
Insect systematics emphasizing external morphology, natural history, evolution, distribution, and phylogeny. Insect collection required.

**536. Comparative Toxicology.** (3:2:3) W even yr. Prerequisite: general biology and an organic chemistry course.
Modes of action and biological transformations of pesticides in living animals, plants, and the environment, emphasizing techniques.

**537. Aquatic Entomology.** (3:2:4) F even yr. Recommended: Zool 331 or equivalent.
Morphology, classification, biology, and functional ecology of aquatic insects.

**540. Zoogeography.** (2:2:0) F even yr. Prerequisite: Zool 204.
Methods for analyzing distribution of animals; distribution of major animal groups emphasizing island biogeography as a critical principle.

**546. World Bird Families.** (4:4:0) W odd yr. Prerequisite: Zool 446 or instructor's consent.
Distribution, composition, and characteristics of world bird families, using museum specimens.

**547. Raptor Biology.** (2–4:Arr.:0) W even yr. Prerequisite: Zool 446 or instructor's consent.
Biology and conservation of major groups of predatory birds, using museum specimens.

**549R. Advanced Topics in Zoology.** (1–4:Arr.:Arr. ea.) On dem. Prerequisite: instructor's consent.
Subjects may include:
—Anatomical Preparations
—Histological Techniques
—Diseases of Fish
—Advanced Mammalogy
—Advanced Ornithology
—Wildlife Diseases

**556. Limnology.** (4:3:3) F even yr. Prerequisite: Zool 350.
Biotic and physical-chemical properties of lakes and streams. Saturday field trips required.

**559R. Advanced Topics in Ecology and Systematics.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Subjects may include:
—Advanced Ecology
—Tropical Biology
—Evolutionary Biology
—Field Methods

**561. Physiology and Drug Mechanisms.** (3:2:3) F Prerequisite: Zool 460 or instructor's consent.
Function and regulation of organ systems in mammals. Relationships between normal functions and biological and physiological effects of drugs.

**562. Neurophysiology.** (3:3:0) W Prerequisite: Zool 460 or equivalent.
Structure and function of central and peripheral nervous systems.

**565. Endocrinology.** (3:3:0) W Prerequisite: Zool 460 or equivalent.
Study of mammalian hormones.

**566. Experimental Endocrinology.** (2:0:6) W Prerequisite: Zool 565. Recommended: Chem 481.
Techniques used in research.

**569R. Advanced Topics in Entomology.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Subjects may include:
—Insect Taxonomy
—Insect Ecology
—Insect Physiology
—Acarology

**572. Gene Regulation.** (2:2:0) W even yr. Prerequisite: Zool 342.
Molecular basis of gene regulation in eukaryotic cells. Emphasis on transcriptional and post-transcriptional controls in nuclear and organellar genomes of animals and plants.

**579R. Advanced Topics in Genetics.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.
Subjects may include:
—Molecular Evolution
—Teratology Techniques

**585. Developmental Biology.** (3:3:0) F odd yr. Prerequisite: Zool 342.
Cellular and biochemical mechanisms that achieve differentiation in the developing embryo.

**589R. Advanced Topics in Physiology.** (1–4:Arr.:Arr. ea.) Prerequisite: instructor's consent.

**591R. Special Problems in Zoology.** (1–2:Arr.:Arr. ea.) F, W, Sp, Su Prerequisite: instructor's consent.

## Graduate Courses

For 600- and 700-level courses, see the 1996–97 BYU Graduate Catalog.

## Zoology Faculty

**Professors**

Andersen, Ferron L. (1967) BS, MS, Utah State U., 1957, 1960; MS, U. of Illinois, 1962; PhD, Utah State U., 1963.
Barnes, James R. (1969) BS, Brigham Young U., 1963; MS, PhD, Oregon State U., 1967, 1972.
Baumann, Richard W. (1975) BA, MS, PhD, U. of Utah, 1965, 1967, 1970.
Black, Hal L. (1975) BS, MS, U. of Utah, 1966, 1968; PhD, U. of New Mexico, 1972.
Booth, Gary M. (1972) BS, MS, Utah State U., 1963, 1966; PhD, U. of California, Riverside, 1969.
Bradshaw, William S. (1970) BA, Harvard U., 1963; PhD, U. of Illinois, 1968.
Farmer, James L. (1969) BS, California Inst. of Technology, 1960; PhD, Brown U., 1966.
Heckmann, Richard A. (1972) BS, MS, Utah State U., 1954, 1958; PhD, Montana State U., 1970.
Heninger, Richard W., Associate Dean (1966) BS, Brigham Young U., 1957; MS, PhD, Oklahoma State U., 1959, 1961.
Jeffery, Duane E. (1969) BS, MS, Utah State U., 1962, 1963; MA, PhD, U. of California, Berkeley, 1966, 1972.
Rhees, Reuben Ward (1973) BS, U. of Utah, 1967; PhD, Colorado State U., 1971.
Seegmiller, Robert E. (1972) BS, MS, U. of Utah, 1965, 1967; PhD, McGill U., Canada, 1970.
Sites, Jack W., Jr. (1982) BS, MS, Austin Peay State U., 1973, 1975; PhD, Texas A&M U., 1980.
Smith, H. Duane (1969) BS, MS, Brigham Young U., 1963, 1966; PhD, U. of Illinois, 1969.
Tolman, Richard R. (1982) BS, MS, U. of Utah, 1963, 1964; PhD, Oregon State U., 1969.
White, Clayton M. (1970) BA, PhD, U. of Utah, 1961, 1968.
Winder, William W. (1982) BS, PhD, Brigham Young U., 1966, 1971.

**Associate Professors**

Braithwaite, Lee F. (1964) BS, MS, PhD, Brigham Young U., 1959, 1962, 1970.
Busath, David D. (1995) BA, MD, U. of Utah 1974, 1978.
Maurer, Brian A. (1986) BS, Brigham Young U., 1977; MS, West Virginia U., 1980; MS, PhD, U. of Arizona, 1982, 1984.
Rogers, Duke S. (1989) BS, MS, Texas A&M U., 1976, 1979; PhD, U. of California, Berkeley, 1986.
Shiozawa, Dennis Kenji (1978) BA, Weber State Coll., 1972; MS, Brigham Young U., 1975; PhD, U. of Minnesota, St. Paul, 1978.
Whitehead, Armand T. (1969) BS, Brigham Young U., 1965; PhD, U. of California, Berkeley, 1969.

**Assistant Professors**

Belk, Mark C. (1992) BS, MS, Brigham Young U., 1985, 1987; PhD, U. of Georgia, 1992.
Bell, John D. (1990) BS, Brigham Young U., 1982; PhD, U. of California, San Diego, 1987.
Bennett, Randy L. (1995) BA, Western Maryland Coll., 1985; PhD, U. of Wisconsin, Madison, 1993.
Crandall, Keith A. (1995) BA, Kalamazoo Coll., 1987; AM, PhD, Washington U., 1993.
Evans, R. Paul (1987) BS, Brigham Young U., 1995; PhD, Medical Coll. of Virginia, 1983.
Judd, Allan M. (1991) BS, MS, Brigham Young U., 1973, 1978; PhD, West Virginia U., 1982.
Lephart, Edwin D. (1994) BS, MS, Brigham Young U., 1979, 1982; PhD, U. of Texas Southwestern Medical Center, Dallas, 1989.

**Collaborators and Adjunct Faculty**

Sanford Bingham, David R. Bolick, Gordon J. Christensen, Sherman Cloward, Ted Hanks, Joseph B. Platt, Phil R. Taylor, Charles Thompson, LaVar A. Ware, D. Keith Whatcott.

**Part-Time Faculty**

Craig Miyagishima, Eric G. Vogel.

**Emeriti**

Allen, A. Lester (1954) BA, PhD, U. of California, Los Angeles, 1946, 1951.
Allman, Verl Phillips (1950) BS, MS, Brigham Young U., 1948, 1952.
Allred, Dorald M. (1956) BA, MA, Brigham Young U., 1950, 1951; PhD, U. of Utah, 1954.
Chapman, Arthur O. (1959) BA, Brigham Young U. 1941; MA, U. of Kansas, 1949; PhD, U. of Nebraska, Omaha, 1953.
Frost, Herbert H. (1960) BA, MA, Brigham Young U., 1941, 1947; PhD, Cornell U., 1955.
Hayward, C. Lynn (1930) BS, MS, Brigham Young U., 1927, 1931; PhD, U. of Illinois, Chicago, 1941.
Jaussi, August W. (1962) BS, U. of Idaho, 1953; MS, Brigham Young U., 1955; PhD, Oklahoma State U., 1960.
Jorgensen, Clive D. (1960) BS, MS, Brigham Young U., 1954, 1957; PhD, Oregon State U., 1964.
Nicholes, Henry J. (1946) BA, Brigham Young U., 1935; PhD, U. of Wisconsin, Madison, 1941.
Pritchett, Clyde L. (1967) BS, MS, Brigham Young U., 1960, 1962; PhD, U. of Wyoming, 1977.

Simmons, Elbert R. (1956) BS, Utah State U., 1941; MA, U. of Iowa, 1943.
Smith, Lamont W. (1970) BS, Brigham Young U., 1960; MS, U. of Wisconsin, Madison, 1962; PhD, West Virginia U., 1970.
Tanner, Wilmer W. (1949) BA, MA, Brigham Young U., 1936, 1937; PhD, U. of Kansas, 1949.
Tipton, Vernon J. (1968) BS, MS, Brigham Young U., 1948, 1949; PhD, U. of California, Berkeley, 1959.
Wood, Stephen L. (1956) BS, MS, Utah State U., 1946, 1948; PhD, U. of Kansas, 1953.

# Division of Continuing Education

399 HCEB, PO Box 21534, (801) 378-4146

**Dean:** Richard C. Eddy
**Associate Dean:** Kenneth W. Anderson
**Associate Dean:** Wayne J. Lott
**Assistant to the Dean—Financial and Administrative Services:** A. Lynn Abbott

The purpose of the Division of Continuing Education is to provide educational programs and university services for part-time and off-campus students. These educational opportunities also assist regular daytime students. BYU cooperates with the Continuing Education programs as sponsored by the Church Educational System and its various components. The same university standards required of regular day students apply to those enrolled through the Division of Continuing Education while they are on campus.

**Organization.** Because the Continuing Education programs represent both BYU and the Church Educational System, the department and center descriptions will be distinguished in the material that follows.

## Requirements for Enrollment in Continuing Education Classes

Noncredit classes are open to anyone having the desire and the necessary ability.

Credit classes are open to:

1. Matriculated students.
2. Anyone twenty-three years of age or older.
3. Individuals desiring to audit courses.
4. High school students in their junior or senior year who have a 3.0 GPA (may concurrently enroll in selected workshops and seminars if authorized by the University Admissions Committee).

Students who have been suspended from Brigham Young University or any other institution of higher learning for any reason are not eligible to register in Continuing Education credit classes until such suspension is cleared.

**Enrollment Limitations.** Persons enrolling in credit courses offered by the Division of Continuing Education who are officially admitted to the university can take any courses offered to a maximum of 18 credit hours per semester (9 hours per term). All others, twenty-three years of age and older, who have not been formally admitted to the university are limited to a maximum of 7 credit hours per semester (4 hours during spring or summer term). Contact the Division of Continuing Education for any additional conditions of enrollment.

**Student Responsibility.** Acceptance in a Continuing Education course *does not* constitute acceptance by BYU or any other university on a degree-seeking basis. It is the student's responsibility to gain admission to the university of his or her choice as a degree-seeking student through the normal procedures. At BYU students may accomplish this through the Office of Admissions and Records.

**Note:** Students enrolled in the Division of Continuing Education would not be eligible for university employment, housing, or financial aid except for that assistance available to part-time students through the Division of Continuing Education.

## Departments and Programs

### Evening Classes

Ralph V. Larson, Director (105 HCEB, PO Box 21513, [801] 378-2872)

The Department of Evening Classes' major responsibility is to provide college-level educational opportunities for adults age twenty-three and older. In addition, the department is a service for daytime students who experience scheduling difficulties or prefer the evening sections. Classes contributing to baccalaureate and graduate degrees are offered.

A schedule of courses is published each semester and is available on request at the Evening Classes Office (120 HCEB). Evening classes are also listed in the daytime class schedule as sections 400 and above.

### Independent Study

R. Dwight Laws, Director (206 HCEB, PO Box 21514, [801] 378-2868)

Independent Study is the university's "portable program" that can bring BYU to students anytime, anywhere. Through Independent Study, BYU offers nearly 300 college-level credit courses, providing a practical and flexible solution for university students with scheduling problems and for working students, armed forces personnel, teachers, and others who cannot take all their classes in residence.

Up to 36 semester hours of work completed through Independent Study can be used toward a bachelor's degree from BYU, and courses are also available for teacher recertification. Individual high school–level courses, a full high school diploma program, and noncredit courses for personal development and enrichment are also available.

Students may register for an Independent Study course at any time during the year. Formal admission to BYU is not required. Catalogs are available without charge and list all the courses available, current fees, and enrollment policies and procedures. Students are given one year to complete a course, although most do so in less time.

### Conferences and Workshops

Steven W. Taggart, Director (109 HCEB, PO Box 21516, [801] 378-3559)

The Department of Conferences and Workshops offers a variety of programs each year (approximately 500) in the BYU Conference Center, other campus facilities, or off-campus locations. These programs are sponsored by the university's colleges, as well as by campus departments and LDS Church

organizations. Credit and noncredit programs include classes, conferences, workshops, training sessions, enrichment experiences, seminars, and sports camps, available to professionals, college students, faculty, staff, adults, and youth.

## BYU Conference Center

Spencer E. Hansen, Manager (2255 CONF, PO Box 21522, [801] 378-7700)

The BYU Conference Center is located east of the Marriott Center and adjacent to the Harman Continuing Education Building. The primary host facility for conference guests on campus, it is especially equipped to provide a favorable learning environment for guests participating in conferences, workshops, institutes, training seminars, and other educational programs. The programs may be sponsored by a university unit or cosponsored with an off-campus professional, government, corporate, civic, recreational, religious, or community organization. The center is not available for entrepreneurial programs.

Those interested in scheduling programs in the center are invited to contact the BYU Conference Center.

## Travel Study

George J. Talbot, Director (303 HCEB, PO Box 21525, [801] 378-3946)

Students who wish to enhance their education with experience abroad will want to take advantage of Travel Study programs. Utilizing modern transportation and communication, participants find the world literally at their doorsteps. Horizons are expanded, knowledge is increased, and the mind is challenged as students study and travel with professional university educators. On-site experience with the cultures and people of other lands truly makes the world BYU's campus. BYU Travel Study programs effectively combine academic, spiritual, and intercultural goals in a unique way.

### Educational Travel

A variety of programs visiting the following areas of the world offers optional university credit (1–3 hours):

Europe
Scandinavia
The Middle East, emphasizing Bible lands and Egypt
Asia
Australia, New Zealand
Latin America (Mexico, Central America, South America)
USA (Church history, American heritage, Alaska)
Canada
Africa (Kenya and South Africa)
Russia
Nauvoo Semester Abroad

## CES Continuing Education Programs—North

Milton L. Sharp, Director (295 HCEB, PO Box 21505, [801] 378-2528)

Church Continuing Education—North provides Continuing Education programs for the northwestern United States and Canada and also for the Northern Plains states. Three primary programs are offered: Know Your Religion Series and Lecture Tours, scripture symposia, and Best of Especially for Youth. The department also administers CES adult religion classes throughout the United States and Canada.

## CES Continuing Education Programs—South

E. Mack Palmer, Director (278 HCEB, PO Box 21507, [801] 378-2087)

Church Continuing Education—South provides more than 399 Church Continuing Education programs in 97 locations in the geographical region from Provo south through Arizona, and from Nevada on the west to Texas and Oklahoma on the east and Northern California. The primary programs offered are Education Days, Best of Especially for Youth, and Know Your Religion Lecture Tours.

In addition, CES—South sponsors the Campus Education Week that has been held at BYU since 1922. This one-week program serves more than 30,000 students, who come to campus from all over the United States and many other countries.

## CES Continuing Education Programs—Northern Utah

Frank Santiago, Director (209 HCEB, PO Box 21533, [801] 378-6216)

Church Continuing Education—Northern Utah and the East provides programs to the area from Salt Lake City to southern Idaho and into western Wyoming and to the southern, midwestern, and eastern United States and eastern Canada. Programs offered are: Know Your Religion and adult religion classes, Best of Especially for Youth, scripture symposia, Education Days, Education Weeks, and other religious education programs. Over 200 programs are offered each year.

## CES Continuing Education Youth and Family Programs

Susan V. Overstreet, Director (164 HCEB, PO Box 21504, [801] 378-3817)

Especially for Youth, Academy for Girls, Summer Scholars Academy, youth conferences, programs for the deaf, and other enrichment programs are offered to youth and adults by CES Youth and Family Programs, both on the BYU campus and at localities nationwide. More than 40,000 participants are served, coming from virtually every state and province in the United States and Canada and from several foreign countries.

## Centers for Continuing Education

Sensing the obligation of the Church university to provide educational opportunities in harmony with LDS standards for persons living away from Provo, the BYU Board of Trustees has established Continuing Education centers to offer educational programs to people in outlying areas. See the Graduation Requirements section of this catalog for residence requirements. Continuing Education centers represent both BYU and the Church Educational System in their program offerings.

### BYU-California Center for Continuing Education

Duane C. Lemley, Director
3323 Workman Mill Road
Whittier, CA 90601
Telephone (310) 699-1014 or (800) 992-1014

One hundred stakes of the Church throughout Southern California participate in the California Center's activities, which involve over 30,000 people annually. The educational activities are usually held in LDS stake centers, and events are generally cosponsored by LDS wards and stakes.

**BYU-Ricks Center for Continuing Education**

Ronald W. Campbell, Director
Ricks College
Rexburg, ID 83460-8011
Telephone (208) 356-1040
and
1776 Science Center Drive
University Place
Idaho Falls, ID 83405
Telephone (208) 523-4682

This center provides off-campus BYU credit classes throughout Idaho, cooperating with Ricks College in other adult and Continuing Education programs.

**BYU-Salt Lake Center for Continuing Education**

Orson B. Roper, Director
3760 South Highland Drive. Suite 200
Salt Lake City, UT 84106
Telephone (801) 273-3434

As the continuing education arm of the university in the Salt Lake valley, the BYU Salt Lake Center offers courses through most colleges and departments of the university. Most classes are held at night, making it possible for full-time and part-time students to take many of their required courses as well as general education and elective courses in Salt Lake City.

Students admitted to the university as concurrent enrolling high school seniors can also take classes at the BYU Salt Lake Center.

The executive MPA (Master of Public Administration) program is offered at the Center, allowing students to pursue a master's degree by attending classes one night each week while continuing to work during the day.

Professional development courses, certification programs in family history and in dietary management, and personal enrichment courses are also offered at the BYU Salt Lake Center.

## Degrees by Independent Study

Ralph A. Rowley, Director (305 HCEB, PO Box 21514, [801] 378-4351)

### Admission to Degree Program

Admission to the bachelor's degree program is by completion of the admissions procedure through Degrees by Independent Study. The application fee is $20.

### The Discipline

The bachelor of independent studies degree involves study in a broad range of courses under the direction of university faculty and advisors. It is designed especially for the adult student (twenty-one years of age and older) who:

1. Has not been able to complete a regular university degree, and who wants to do so.
2. Has varied interests, a thirst for knowledge, and a desire to complete an extensive general education degree.
3. Is a self-starter, has an inquiring mind, and is motivated to learn in a home study environment.
4. Has a wide range of interests and enjoys reading on an organized, continuing basis.

### Career Opportunities

This degree does not lead to specific career opportunities.

### Undergraduate Programs and Degrees

BIS Bachelor of Independent Studies

### General Information

**Transfer Credits and Waivers.** Students who have previously earned college credit may apply for transfer of these credits into the program.

When previous college credits fully satisfy a required area of study, both the area of study and its corresponding seminar may be considered completed.

**Seminars.** The Foundations seminar is held in June and January; remaining seminars are held during the summer.

**Area of Study.** On enrollment in an area of study, students will be given a complete study guide outlining that part of the program. There are introductory and basic readings in the beginning. Experienced students may not need to dwell on these, but each student will be expected to acquire certain basic knowledge found in the assignments for a given area. Normally, students will write to, talk with, or send a cassette tape to the instructor at least once each month during the period of independent study in a given area. The instructor is the key person who counsels in these assignments.

Obtain information and degree application materials by contacting Degrees by Independent Study.

**BIS Independent Studies (128 hours)**

Requirements for graduation with the BIS degree include completion of three major phases of study: (1) Preparation Phase, (2) Growth Phase, and (3) Closure Phase. These phases are broken down into study areas as follows:

**Preparation Phase**

| *Foundations* | *Credit hours* |
|---|---|
| How to think | 4 |
| How to communicate | 4 |
| Seminar | 2 |

**Growth Phase**

| | |
|---|---|
| *Religion and Philosophy* | |
| Scriptures, Church history, philosophy, world religions, learning adventures | 24 |
| Seminar | 3 |
| *Social Sciences* | |
| Personality, social order, family, utopias, economics, political science, race relations, history | 24 |
| Seminar | 3 |
| *Arts and Humanities* | |
| Literary, theatre, visual, and auditory arts | 24 |
| Seminar | 3 |
| *Biological and Physical Sciences* | |
| Physics, astronomy, mathematics, chemistry, geology, botany, biology, zoology | 24 |
| Seminar | 3 |

**Closure Phase**

| | |
|---|---|
| Project | 7 |
| Seminar | 3 |
| Total hours | 128 |

## Degrees by Independent Study (DIS)

### Undergraduate Courses

**211. How to Think.** (4:4:0)
Companion course to DIS 212. Assessment as a thinker, with emphasis on logical development of ideas.

**212. How to Communicate.** (4:4:0)
Companion course to DIS 211. Assessment as a communicator, with emphasis on written and oral communications.

**220. Seminar.** (2:2:0)
Two-week, full-time, on-campus, midcourse experience with other students and faculty advisors improving skills used in college-level work.

**251. Scriptures.** (1–10:10:0)
Four standard works of the LDS Church.

**252. Church History.** (2:2:0)
Events and processes in LDS Church history that influence lives today.

**253. Philosophy.** (3:3:0)
Selected philosophical positions and questions.

**254. World Religions.** (3:3:0)
Selected world religions, their influences and contributions.

**255. Learning Adventures.** (6:6:0)
Scriptures, Church history, philosophy, and world religion studies focused on solving everyday problems.

**260. Seminar.** (3:3:0)
Two-week, full-time, on-campus experience with other students and faculty advisors integrating all religion and philosophy courses.

**321. Personality.** (3:3:0)
Man's behavior relative to personality development and acquiring and modifying beliefs and values.

**322. History.** (3:3:0)
Selected themes in the history of Western civilization.

**323. Family.** (3:3:0)
Kinship, marriage, and family behavior in various cross-cultural perspectives.

**324. Social Order.** (3:3:0)
Groups and social systems that influence lives.

**325. Politics.** (3:3:0)
Social-psychological foundations of political behavior, basic processes, and institutions.

**326. Economics.** (3:3:0)
Relationship between the individual and the modern economic environment.

**327. Utopia.** (3:3:0)
"Possible societies" or utopias, analyzing both problems and solutions.

**328. Race Relations.** (3:3:0)
Carefully designed social study of race relations.

**330. Seminar.** (3:3:0)
Two-week, full-time, on-campus experience with other students and faculty advisors investigating the social sciences.

**341. Literary Arts.** (6:6:0)
Language, literary forms, times, and traditions, and the values by which literary artistry is assessed.

**342. Theatre Arts.** (6:6:0)
Visual, auditory, emotional, and spiritual dimensions involved in theatre, motion picture, television, and dance.

**343. Visual Arts.** (6:6:0)
Developing objective standards for evaluating both traditional and environmental arts.

**344. Auditory Arts.** (6:6:0)
Increasing involvement with and pleasure in music; increasing perception.

**350. Seminar.** (3:3:0)
Two-week, full-time, on-campus experience with other students and faculty advisors enhancing appreciation of the arts.

**361. Mathematics.** (2:2:0)
Significant mathematical ideas, themes, and principles; examining their influences.

**362. Physics.** (4:4:0)
Physics involving history, reasoning processes, social attitudes, and scientific views.

**363. Chemistry.** (4:4:0)
Selected discoveries and ideas in chemistry, emphasizing philosophy of this science.

**364. Geology.** (4:4:0)
Uniformitarianism, geological times, and history and physical composition of our planet.

**365. Botany.** (2:2:0)
Plants, life and energy, and man's impact on environment.

**366. Zoology.** (2:2:0)
Environmental stewardship and the science of animal life, including theories of organic development.

**367. Biology.** (4:4:0)
Critical concepts of biology, with examples of their relevance to modern life and society.

**368. Astronomy.** (2:2:0)
Broad study of geometry and motions of the earth, moon, sun, planets, and stars in space.

**370. Seminar.** (3:3:0)
Two-week, full-time, on-campus experience with other students and faculty advisors focusing on biological and physical sciences.

**480. Closure Project.** (7:7:0)
Using skills and knowledge acquired in various DIS courses to create through research and study an academic project and report.

**490. Closure Seminar.** (3:3:0)
One-week on-campus experience presenting closure project to classmates before participating in university commencement.

## Degrees by Independent Study Faculty

**Professors**
Bowen (Church History and Doctrine)
Chadwick (Sociology)
Durham (Music)
Griffen (Geology)
Harrison (Physics)
Johnson (Sociology)
Packard (Philosophy)
Palmer (Astronomy)
Paulsen (Philosophy)
Pixton (History)
Wimmer (Economics)

**Associate Professors**
Anderson (Church History and Doctrine)
Buckwalter (Political Science)
Choi (World Religions)
Hunsaker (English)
Reeve (Ancient Scripture)
Nielson (Psychology)
Scanlon (Theatre and Film)
St. Clair (Botany and Range Science)
Tippetts (Art)
Tolman (Mathematics)

**Assistant Professors**
Norton (English)
Wood (Chemistry)

**Professional Professor**
Furniss (Biology/Botany)

# Harold B. Lee Library Personnel

**Senior Librarians**

Albrecht, Sterling J. (1966) BS, U. of Utah, 1962; MLS, Brigham Young U., 1971.
Benson, Larry D. (1970) BS, MLS, Brigham Young U., 1965, 1971.
Butler, Helen Julene (1971) BA, MLS, Brigham Young U., 1970, 1971.
Christensen, John Owen (1981) BS, U. of Washington, 1973; MLS, Brigham Young U., 1975.
D'Arc, James V. (1985) BA, PhD, Brigham Young U., 1978, 1986.
Dahlin, Therrin C. (1974) BA, MLS, Brigham Young U., 1973, 1974.
Daniel, Milton R. (1986) BA, MA, Brigham Young U., 1970, 1983.
Day, David (1986) BA, MA, Brigham Young U., 1978, 1981; MS, U. of North Carolina, Chapel Hill, 1985.
Duvall, Scott H. (1975) BA, MLS, MA, Brigham Young U., 1972, 1975, 1977.
Espinosa, Robert (1986) BA, U. of New Mexico, 1976.
Fales, Susan L. (1974) BS, Utah State U., 1965; MLS, MA, Brigham Young U., 1973, 1984.
Gillum, Gary P. (1971) BA, Concordia Senior Coll., 1968; MLS, Brigham Young U., 1971.
Grover, Mark L. (1973) BA, MLS, Brigham Young U., 1971, 1973; MA, PhD, Indiana U., 1979, 1985.
Hacken, Richard D. (1981) BA, Brigham Young U., 1969; MA, PhD, U. of California, Davis, 1971, 1975.
Hall, Blaine H. (1963) BS, MA, MLS, Brigham Young U., 1960, 1965, 1971.
Hoopes, Helen (1986) BA, MLS, Brigham Young U., 1969, 1974.
Lamb, Connie (1979) BA, MS, U. of Utah, 1969, 1972; MLS, MA, Brigham Young U., 1976, 1987.
Olsen, Randy J. (1972) BA, Utah State U., 1971; MLS, MPA, Brigham Young U., 1973, 1981.
Ostler, Larry J. (1984) BA, MLS, Brigham Young U., 1966, 1971; EdD, Nova U., 1985.
Rowley, Edward Dennis (1973) BA, U. of Colorado, 1965; MA, Case Western Reserve U., 1970.
Smith, Nathan M.(1966) BS, Eastern Oregon State Coll., 1961; MS, Oregon State U., 1965; MLS, PhD, Brigham Young U., 1969, 1972.
Swenson, Dale (1984) BS, U. of Utah, 1979; MLS, Brigham Young U., 1985.
Whittaker, David J. (1982) BA, Brigham Young U., 1967; MA, California State U., Northridge, 1973; PhD, Brigham Young U., 1982.
Wiggins, Marvin E. (1967) AS, Weber State Coll., 1961; BS, Brigham Young U., 1965; MLS, Rutgers U., 1967.
Winkler, Albert L. (1979) BA, MA, Utah State U., 1973, 1976; MA, Catholic U. of America, 1980; MLS, PhD, Brigham Young U., 1981, 1982.

**Associate Librarians**

Adams, K. Haybron (1976) BS, MLS, Brigham Young U., 1972, 1973.
Angerhofer, Paul J. (1988) BA, MLS, Brigham Young U., 1985, 1988.
Baker, LeGrand L. (1974) BS, Brigham Young U., 1963; MS, PhD, U. of Wisconsin, Madison, 1965, 1972.
Bradford, Janet B. (1987) BA, Brigham Young U., 1978; MS, U. of Illinois, 1986.
Broadway, Marsha D. (1985) BS, U. of Northern Alabama, 1972; MS, Alabama A&M U., 1978; MLS, Brigham Young U., 1981; PhD, Florida State U., 1985.
Brown, Linda W. (1983) BS, Utah State U., 1961.
Bybee, Howard C. (1988) BA, Brigham Young U., 1968; MA, Duke U., 1971; MS, MLS, Brigham Young U., 1987, 1988.
Champion, Brian (1995) BA, U. of Alberta, Canada, 1977; MLS, MA, Brigham Young U., 1981, 1982.
Dick, Gerald K. (1970) BA, MMu, MLS, Brigham Young U., 1962, 1967, 1968.
Ellenburg, Doris (1986) BA, MA, California State U., Los Angeles, 1974, 1975; MLS, Brigham Young U., 1980.
Francis, Janet O. (1977) BA, Brigham Young U., 1955.
Hansen, Kathleen (1986) BS, MLS, Brigham Young U., 1971, 1989.
Heath, Harvard (1984) BA, PhD, Brigham Young U., 1977, 1990.
Houze, Annick (1988) BA, MLS, Brigham Young U., 1985, 1987.
Howard, Donald Hugh (1969) BA, U. of Idaho, 1963; MLS, U. of California, Berkeley, 1964.
Jensen, Richard D. (1971) BS, MLS, Brigham Young U., 1970, 1976.
Jenson, Janet (1976) BA, MA, Brigham Young U., 1958, 1960; MS, Columbia U., 1966.
Johansen, Kathleen D. (1986) BS, MLS, Brigham Young U., 1971, 1978.
Jordan, K. Paul (1964) BS, Brigham Young U., 1964; MLS, U. of Southern California, 1969.
King, Gail O. (1982) BA, U. of Colorado, 1970; MA, PhD, U. of Chicago, 1972, 1982.
Kupitz, Carla (1988) BA, U. of Utah, 1979; MLS, Brigham Young U., 1987.
Lo, Howard, Wen-Hao (1969) BA, 1961; MLS, MA, Brigham Young U., 1969, 1985.
Memmott, Howard Kirk (1973) BS, MLS, EdD, Brigham Young U., 1966, 1973, 1986.
Norton, Beverly (1986) BA, MLS, Brigham Young U., 1984, 1985.
Parkinson, Diane R. (1989) BS, MLS, Brigham Young U., 1986, 1989.
Ramsey, Christiane E. (1989) BA, MA, MLS, Brigham Young U., 1984, 1989, 1992.
Shields, Dorothy M. (1974) BA, Muskingum Coll., 1952; MLS, Case Western Reserve U., 1964; EdD, Brigham Young U., 1977.
Slater, Bill G. (1970) BA, MLS, Brigham Young U., 1969, 1975.
Soares, Richard E. (1987) BA, Chico State U., 1985; MLS, San Jose State U., 1986.
Stirling, Keith H. (1972) BS, MS, Brigham Young U., 1964, 1966; PhD, U. of California, Berkeley, 1977.
Urquiga, Laureen C. (1989) BS, MLS, Brigham Young U., 1981, 1985.
Westover, Keith R. (1991) BA, MLS, Brigham Young U., 1969, 1970; MA, Indiana U., 1975.
Westwood, Brad (1995) BA, Brigham Young U., 1985; MS, U. of Pennsylvania, 1994.
Willey, Kayla (1986) BA, MLS, Brigham Young U., 1978, 1987.
Wright, John (1992) BS, MLS, Brigham Young U., 1987, 1989.
Yang, Basil P. (1981) MLS, MA, PhD, Brigham Young U., 1974, 1984, 1992.

**Assistant Librarians**

Baer, Lisa (1991) BS, MLS, Brigham Young U., 1989, 1993.
Baer, William (1993) BS, MLS, Brigham Young U., 1992, 1993.
Barainca, Denice (1986) BA, MLS, Brigham Young U., 1986, 1991.
Barrios, Pamela C. (1990) BA, Lehman Coll. of City U. of New York, 1977.
Beier, Michael A. (1995) BS, MLIS, Brigham Young U., 1980, 1993.
Bernards, Dennis (1986) BS, MLS, Brigham Young U., 1972, 1991.
Casper, Gordon C. (1967) BS, MLS, Brigham Young U., 1964, 1969.
Flick, Roger C. (1970) BS, MLS, Brigham Young U., 1966, 1973.
Frade, Patricia A. (1992) BS, MLS, Brigham Young U., 1981, 1986.
Halliday, Irene (1992) BS, MLS, Brigham Young U., 1963, 1988.
Hoffman, Shannon L. (1994) BA, Chandron State Coll., 1987; MLS, Brigham Young U., 1989.
Hope, Anne (1993) BA, MA, MLS, Brigham Young U., 1984, 1989, 1993.
Kupitz, Gabriele (1994) BA, MLS, Brigham Young U., 1991, 1993.
McAfee, Christopher (1995) BA, Brigham Young U., 1993; MFA, U. of Alabama, 1995.
Pollei, Mark B. (1995) BA, Brigham Young U., 1992; Certificate in Bookbinding/Conservation, North Bennet St. School, 1994.
Porter, Janet Y. (1995) BA, MLIS, Brigham Young U., 1992, 1993.
Russell, Kirk A. (1989) BA, MLS, Brigham Young U., 1987, 1991.
Turnblom, Grant W. (1969) BA, MLS, Brigham Young U., 1964, 1969.
Wells, Thomas (1986) BS, MLS, Brigham Young U., 1982, 1989.
Wright, Thomas C. (1995) BS, Bemidji State U., 1976; MLIS, Brigham Young U., 1992.

**Emeriti**

Astin, J. Sterling (1969) BS, U. of Utah, 1940.
Earl, Naomi Rich (1937) BS, Brigham Young U., 1931.
Flake, Chad J. (1953) BA, Brigham Young U., 1953; MA, U. of Denver, 1955.
Hawker, Alora Jane (1966) BS, MLS, Brigham Young U., 1952, 1974.
Jensen, Allene (1961) BA, MS, U. of Utah, 1930, 1957.
Jenson, Gloria Dawn (1954) BS, Brigham Young U., 1950; MS, Columbia U., 1954.
Lamson, Merle E. (1961) AS, Yakima Valley Coll., 1953; BS, Brigham Young U., 1955; MLS, Columbia U., 1960; PhD, U. of Utah, 1975.
Larsen, A. Dean (1956) BS, Brigham Young U., 1954; MA, U. of Michigan, 1960.
Miner, Afton McGrath (1972) BA, Arizona State U., 1954; MLS, U. of California, Berkeley, 1963.
Moffat, Helen (1975) BA, U. of Utah, 1942; MA, Arizona State U., 1955; MA, U. of Denver, 1958.
Nelson, Donald K. (1961) BS, Utah State U., 1938; MLS, MBA, U. of Denver, 1945, 1948.
Nielson, Eve (1949) BS, Utah State U., 1945; MS, U. of Southern California, 1959; AS, Brigham Young U., 1963.
Nixon, John D. (1961) BS, Brigham Young U., 1957; MA, U. of Denver, 1961.
Pope, Elizabeth D. (1964) BA, MLS, Brigham Young U., 1943, 1971.
Richey, Melva (1985) BS, Utah State U., 1943; MLS, Brigham Young U., 1976.
Robertson, Russell C. (1973) BA, U. of California, Los Angeles, 1949; MLS, U. of Illinois, 1960; MEd, Brigham Young U., 1977.
Scott, Hollis (1961) BS, Brigham Young U., 1949.
Smith, Carol T. (1949) BA, Brigham Young U., 1940; MS, U. of Southern California, 1962.
Webb, Beth R. (1966) BA, Brigham Young U., 1940; MA, U. of Denver, 1944.

# Services Available on Campus

## Academic Support Office

G. Craig Orme, Administrator (151 SWKT, PO Box 25548, [801] 378-2723)

The primary purpose of the Academic Support Office is to reduce the incidence of academic failure among qualified students. Various programs involving faculty cooperation, policy development, student contact and counseling, research, and remedial or preventive activities are administered and developed by this office.

Students with deficient academic standing are notified after each semester or term of attendance. This notification and the follow-up contact program are positive in nature and are oriented toward aiding students to increase their academic effectiveness and eventually to attain their educational goals.

Specialized counseling and referral services are provided by personnel in the Academic Support Office. Faculty members may request information about the academic status of a student as well as materials to improve study skills. Teachers are also encouraged to refer students who show academic deficiencies to the Academic Support Office for help.

See the Academic Standards section of this catalog for details of BYU's academic standards.

## Alumni Association

### Background

The Alumni Association was organized in 1893 to promote the general welfare of Brigham Young University. Today it serves more than 293,000 alumni and provides several valuable services and programs for students still at the university.

### Membership Prerequisites

All graduates and former students with 24+ credits are eligible for membership in the Alumni Association. There are no dues or membership drives; the association conducts solicitation for contribution to the BYU Senior Pledge Fund and special projects.

### Services to Students

Services to students on the campus include a college-related student/alumni council, BYU Alumni Association Replenishment Grants (for students), meeting facilities in the Alumni House, the annual commencement banquets, the commencement checklist for graduates, and operation of the Student/Alumni Council.

### Services to Alumni

Services to alumni include many on-campus programs during Homecoming and commencement and other times of the year; alumni receptions held throughout the world; alumni travel programs with or without credit; the *Brigham Young Magazine*; the Aspen Grove Family Camp, located behind Mt. Timpanogos; low-cost term life insurance programs; a BYU-oriented merchandising program; and career counseling and job placement assistance.

### Information

Obtain further information on these programs and any others by contacting the Alumni Association (Alumni House, [801] 378-4663 or 1-800-437-4663).

## Bookstore

The BYU Bookstore offers a variety of academic and convenience merchandise for sale at competitive prices. This merchandise includes: textbooks, school supplies, general books, computer hardware and software, cards and gift items, candy and snacks, men and women's clothing and accessories, photo supplies, sports apparel and BYU specialty sportswear, engineering, and art goods.

The Bookstore offers such services as check cashing, money orders, travelers checks, special orders for books and merchandise, gift wrapping, packaging/shipping and mailing services, photo processing, and rentals.

The Bookstore is open Monday through Friday from 7:50 a.m. to 6:00 p.m. and Saturday from 10:00 a.m. to 6:00 p.m. The Twilight Zone annex is open Monday through Friday from 7:30 a.m. to 10:00 p.m. and Saturdays from 9:30 a.m. to 6:00 p.m. For further information call (801) 378-2400.

## Campus Visits

Students desiring to visit campus are encouraged to schedule a tour through the Office of School Relations—Campus Visits (Visitors Center [VCTR], PO Box 23201, [801] 378-4431). Daily tours are available at 9:00 a.m., 10:30 a.m., noon, 2:00 p.m., and 3:30 p.m. Tours are tailored to the individual student's needs, and appointments with advisement centers can be arranged as requested.

## Career Placement Services

(D-240 ASB, PO Box 21227, [801] 378-3000, Fax [801] 378-3444)

Career Placement Services can best assist BYU graduates with their job search when graduating students register during the fall semester of the year in which they plan to graduate.

Students registering with Career Placement Services gain access to many valuable services, including individual and group counseling, on-campus student interviews with employer representatives, and information about specific job opportunities submitted by employers from business, industry, education, and government. Career Placement Services also maintains a complete collection of books, articles, magazines, brochures, and videotapes relating to employing organizations. Materials and workshops are available on such matters as how to write letters of application, prepare resumés, and conduct oneself in personal interviews.

To maximize the number of employment contacts available to graduating students, Career Placement Services works in close cooperation with personnel in each academic department. Ongoing communication is also maintained with the college advisement centers.

Career Placement Services offers services to alumni needing career assistance.

## Comprehensive Clinic

Leslie L. Feinauer, Director (244 TLRB, PO Box 28604, [801] 378-7759/[801] 378-7758)

The Comprehensive Clinic is a research and training center that houses several of the clinical training programs of the university. These include clinical psychology, marriage and family therapy, social work, audiology and speech-language pathology, LDS Social Services, and the research and staff development arm of LDS Social Services. Services of the Comprehensive Clinic are available to community people and BYU staff, faculty, couples, and families. These services include:

1. Counseling for depression, anxiety, low self-esteem, strong fears, marital discord, divorce adjustment, child behavior and family problems, premarital concerns, sexual dysfunction, adoption, foster care, and unwed mothers.
2. Auditory habilitation and biofeedback for headaches and pain, speech disorders, and voice disorders.
3. Evaluation of hearing loss, adequacy of hearing aids, learning disabilities, and physical health status.

Depending on the services provided, fees may be charged. Family size and income, university affiliation, equipment utilized, and other factors are considered in the fees, which range from no charge to full professional fees.

## Computer Support

### University Computing Services

Kelly C. McDonald, Executive Director (167 TMCB, PO Box 26540, [801] 378-5025)

University Computing Services provides extensive computing, and communications facilities to faculty, staff, and students. In addition to equipment, experienced personnel and a library of computer programs are available to help with particular problems or training.

### Student Computing Support Center

Brad Stone, Manager (156 TMCB, [801] 378-2089)

The center provides students the following free services: solutions to computer problems, software evaluation, data recovery, prepurchase advice on software and hardware, help with popular computer programs, and virus detection and eradication.

Faculty and staff should contact their college or department computer support representative (CSR) for computing support.

### Instructional Applications Services

Monte F. Shelley, Director (192 TMCB, PO Box 26553, [801] 378-5026)

Student and teacher evaluation services, computer lab services, and consultation regarding computer-based curriculum materials are all offered by Instructional Applications Services.

## Computers

Students who are considering the purchase of a personal computer should note the following information:

BYU offers a significant savings on the purchase of various computer hardware and software products. These educational discounts are available to registered students, faculty, and staff. (Some vendors do require full-time status.)

For specific information please contact the Bookstore ([801] 378-3740).

## Counseling and Development Center

David M. Sorenson, Director (169 SWKT, PO Box 25548, [801] 378-6291)

The Counseling and Development Center, a department of Student Life, supports Brigham Young University's mission to help students realize their full potential. It is recognized that reaching such potential involves growth and development in emotional, spiritual, social, and physical areas as well as in the intellectual area. As students experience the challenge of a university education, they often encounter problems in one or more of these areas that can be disruptive to their happiness and progress in school. The professionally trained staff at the Counseling and Development Center offers students a variety of services to help solve such problems when they occur.

### Academic Support

(151 SWKT, PO Box 25548, [801] 378-2723)

Academic counseling is available for students who are experiencing difficulty with their studies. This counseling includes help in working through and overcoming obstacles to successful academic performance. Information about the university's academic standards, a student's academic standing, or help with learning problems is available at this office as well. (See also Academic Standards in the Policies and Procedures section of this catalog.)

### Career and Learning Information Center

(149 SWKT, PO Box 25548, [801] 378-2689)

Printed, audiovisual, and computer- generated information about career options and learning skills are available in the Career and Learning Information Center (CLIC). These materials provide useful information for making educational and career decisions and for acquiring skills needed in the academic setting.

### Career Planning Services

(149 SWKT, PO Box 25548, [801] 378-2723)

How does a major relate to the world of work? What should students do when they don't know what they really want to do? What if a student has too many interests? If these and other career related questions ring a bell, then take advantage of the Career Planning Services available in the Counseling and Development Center.

Career counseling is available to help students explore the career process, including their academic majors, occupational interests, and transitions to the world of work. Interest inventories, information banks, computer networking, workshops, student development courses, and indivudual counseling are available to assist students in making decisions about career options.

### Open Major Advisement

(151 SWKT, PO Box 25548, [801] 378-3826)

The Open Major Advisement Center at BYU serves (1) the students who have not yet decided on their academic major and (2) those students whose interests and abilities do not match the major they have already chosen. The services of Open Major Advisement include help in selecting classes, meeting General Education requirements, anddeciding on majors. **All students who are undecided about a major,** whether coded *open major* or not, are welcome to use the many services and resources available to help them make an informed decision about a career or major. Students who have already chosen a major but who

are not finding it to be a good match with their abilities and interests are also encouraged to work with Open Major Advisement.

**Personal Counseling Services**

(149 SWKT, PO Box 25548, [801] 378-3035)

Full-time day students can receive help in dealing effectively with personal problems that interfere with their education. Counseling is provided by professional counselors who operate within established limits of confidentiality. Without written permission from the student, personal information is not released to any third party. Individual and group counseling services are oriented toward short-term intervention and helping students develop self-reliance. Stress management, including biofeedback training, is offered as part of the counseling service.

**Services for Students with Disabilities**

(160 SWKT, PO Box 25548, [801] 378-2767)

The purpose of this office is to assure that students with disabilities are provided access to university programs. A variety of services and extensive information are available.

Mobility impaired students are encouraged to seek help in ensuring the accessibility of classes and other facilities. Hearing impaired students may obtain the services of qualified sign language interpreters and TDD communications by contacting this office. A list of volunteer readers is maintained for visually impaired or learning disabled students. Library lockers, study rooms, VisualTeks, taped textbooks, cassette players, braille writers, and an adapted computer with enlarged characters and speech synthesis are also available. Services for students with learning disabilities include educational assessment, learning advisement, and, as needed, classroom or curriculum accommodations. Services to students with Attention Deficit Disorder or qualifying psychiatric disabilities are provided that may include reasonable academic accommodations. In addition, help is offered in determining appropriate class loads and preparing for a career.

**Testing Services**

(104 SWKT, PO Box 22701, [801] 378-2688)

Tests and inventories are available to help students acquire personal information about career interests, learning styles, emotional adjustment, and personality. Most of the tests and inventories require a referral from a counselor, advisor, or class instructor to ensure an appropriate interpretation and availability of resources. Modest fees are charged for many tests.

**Women's Services and Resources**

(173 SWKT, PO Box 25548, [801] 378-4877)

The CDC Women's Services and Resources is a comprehensive support and referral source for all women on the BYU campus. Individual help in utilizing needed services and programs sponsored by the WSR, campus departments, and community agencies is furnished. Specific information and support is provided for nontraditional students.

**Workshops**

(151 SWKT, PO Box 25548, [801] 378-3035)

A variety of workshops are offered each semester to help students improve their academic, social, and interpersonal skills. Topics such as test taking, notetaking, time management, stress management, choosing a major, self-awareness, and assertiveness are addressed.

## Equal Opportunity Office

Delora P. Bertelsen, Manager (A-289 ASB, PO Box 21220, [801] 378-6878)

Brigham Young University does not allow unlawful discrimination on the basis of race, color, national origin, religion, sex, age, veteran status, or disability in the academic or employment setting. This includes unlawful sexual harassment, which is a violation of university standards as well as state and federal laws and may be considered grounds for discipline. Persons who believe they have been unlawfully discriminated against or unlawfully sexually harassed should contact the Equal Opportunity Office.

## ID Center

Nancy Carson (120-N ELWC, PO Box 27908, [801] 378-5092)

The ID Center makes available to every BYU student a photo identification card with magnetic stripe. During the first week or two of each semester or term, the photo ID cards are produced and distributed to students in 394–396 ELWC. After that, the cards are distributed at the ID Center (120-N ELWC). Dress and grooming standards as outlined by the university must be observed. Services are available Monday through Friday from 8:00 a.m. to 6:00 p.m. during fall and winter semesters and from 9:00 a.m. to 5:00 p.m. during spring and summer terms.

## McDonald Health Center

(170 MHC, PO Box 24800, [801] 378-2771)

Val H. Christensen, Administrative Director
Denton J. Cameron, M.D., Medical Director
Gary B. Brimley, Assistant Director

Student health services are available at the Howard S. McDonald Health Center for all students, spouses, and dependents of students at rates lower than those the community offers. Any student may receive services at the Health Center regardless of his or her insurance policy, although students can receive health care at an even greater discount by utilizing the student health insurance plan. The McDonald Health Center is not a Medicare, Medicaid or Champus provider.

Health services are available from 8:00 a.m. until 6:00 p.m. Monday through Friday and from 8:00 a.m. until noon on Saturday. The Health Center is closed on Sunday and on all BYU holidays. Students can make an appointment by calling (801) 378-5156.

Services available at the Health Center include:

1. Consultation with a physician or nurse-practitioner
2. Immunizations
3. Pharmacy
4. Physical therapy
5. Laboratory services
6. X-ray services
7. Pediatrics
8. Urgent care
9. Consultation with specialists in ENT, ophthalmology, orthopedics, internal medicine, podiatry, psychology and psychiatry, surgery, rheumatology, gynecology, dietary and nutritional counseling, etc.

For more information contact the Health Center. The Health Center is bound by federal confidentiality laws. Personal information will not be released to a third party without written permission from the patient.

## Multicultural Programs

(199 ELWC, PO Box 27908, [801] 378-3065)

Rush Sumpter, Director
Jimmy Benally, Associate Director

Multicultural Programs publishes *Eagle's Eye*, supports Lamanite Generation, and helps American minority students succeed in college work by providing the support described in the following paragraphs.

### Academic Support Office

This office offers personal encouragement, academic advisement, mentoring, and tutoring to American minority students. It also sponsors Discovery, a summer orientation program for minority students.

### Financial Aid

Ken Sekaquaptewa (199 ELWC, PO Box 27908, [801] 378-3065)

This office assists American minority students in locating financial-aid sources for grants and scholarships, provides work-study funding for these students, assists them in identifying employers who are recruiting minority personnel, and helps American Indian students secure tribal funding.

### Student Service Association

Kerry Hammock (423 ELWC, PO Box 27908, [801] 378-3126)

This association charters campus clubs for minority and international students, provides leadership training for club officers, and offers leadership and involvement opportunities to students through programs such as Black Awareness Week, International Week, and Lamanite Week.

## Preprofessional Programs

Students can complete preprofessional study at BYU before professional academic training here or elsewhere. There are no majors at the university in these preprofessional areas because professional schools generally make no specification of majors. Students may major in any department but are encouraged to select majors and related preprofessional studies as outlined below.

### Architecture

Jay Newitt, Advisor (230 SNLB, PO Box 28200, [801] 378-2021)

Prearchitecture students have several options, depending on the intended future architectural degree. One approach is to study only a year or two at BYU before transferring to another institution to pursue a baccalaureate degree in architecture. In these instances, students should plan their period of study at BYU to include, as nearly as possible, course work that will transfer directly into the future architecture program.

Students who plan to obtain a graduate degree or certificate in architecture elsewhere following completion of an undergraduate degree at BYU are advised to consider a baccalaureate program in art, civil engineering, construction management, or design. The choice depends on career and personal interests, academic preparation, and the requirements of the intended architectural program. Students pursing this approach should select their future program early and become familiar with all requirements, thereby avoiding potential disappointments.

Interested students should see a faculty advisor in the construction management program within the Department of Technology Education and Construction Management.

### Dentistry

Don Bloxham, PhD, Advisor (380 WIDB, PO Box 25176, [801] 378-3044)

The acceptance rate of BYU applicants to dental school last year was 85 percent.

Both high grades and Dental Admission Test scores are helpful for admission to a good dental school. Minimum course requirements for most dental schools are: Engl 115, 316 (or 312 or 315), Math 110, Chem 105–107, 351–353, Phscs 105–108, Biol 130, and Zool 460. Zool 229, 329, and 429 are highly recommended. Consult dental school catalogs for other prerequisites (380 WIDB).

A few dental schools will accept BYU students after three years of predental education. A BS degree in biology from BYU is still possible after completion of the first year of dental school. Most students graduate from BYU before going to dental school. Check in 380 WIDB for details.

Plan major requirements with the departmental advisor and predental study with the predental advisor.

### Law

Eileen Crane, Prelaw Advisor ( 2240 SFLC, PO Box 25524, [801] 378-2318)

The study of law prepares the student to work in a variety of settings. Traditional private practice, business, government, consulting, public interest/nonprofit organizations, banking, and education are just some of the many types of settings in which lawyers use their legal education

The grade point average and Law School Admissions Test score are the primary factors on which law schools base their admission decisions. Law schools require a bachelor's degree but no specified majors; the presence or absence of particular courses does not affect admission decisions.

Students should consider selecting a major field that interests them and that may provide an alternative vocation should they choose not to attend law school. Even though no particular prelaw major is best for all students, students should emphasize intellectually demanding courses in the major and in other studies. These ought to include subjects most relevant to the study and practice of law: history, government, economics, and business, out of which the law comes and with which it deals. However, these courses ought to also include the skills expected of law students and lawyers: the ability to analyze, reason, read carefully, think abstractly, and speak and write precisely. These characteristics can be developed in many intellectually stimulating courses, such as those in which one studies the English language and literature, philosophy, debate and public speaking, and accounting.

For a personalized prelaw program, please contact the Prelaw Advisement Center. The prelaw advisor is prepared to help students (1) create a study program for the LSAT, (2) teach research skills for the law school application process, (3) provide data on likelihood of acceptance, and (4) provide debt and career management training for graduate school.

Students should strongly consider signing up for StDev 198R. This course is a prelaw seminar, taught during the first block of fall and winter semesters, that provides students with information about specific areas of the law. Through speakers and text, students preview legal issues and have the opportunity of writing law-related articles that may be selected for publication in the *Prelaw Review*.

### Management

Kim S. Cameron, Associate Dean (730 TNRB, PO Box 23152, [801] 378-6823)

Advisors:
MBA Program Director, Gary F. McKinnon (640 TNRB, PO Box 23111, [801] 378-7641)

MPA Program Director, Lawrence C. Walters (760 TNRB, PO Box 23158, [801] 378-7495)
MAcc Program Director, W. Steve Albrecht (540 TNRB, PO Box 23095, [801] 378-3154)
MOB Program Director, W. Gibb Dyer (790 TNRB, PO Box 23018, [801] 378-2664)

The programs in the Marriott School of Management are designed to prepare qualified students for rewarding careers in management and administration. Classes and study group activities stress the acquisition of professional managerial attributes that will enable students to obtain work in public, private, and not-for-profit organizations. High ethical values and behavior are reinforced.

Applicants to the programs are carefully evaluated in four areas: (1) previous academic performance; (2) completion of a bachelor's degree (except for students applying to the master of accountancy program); (3) test scores on the Graduate Management Admission Test; and (4) work experience, extracurricular activities, leadership potential, motivation, and maturity.

Marriott School of Management programs, leading to the master of business administration, master of public administration, and master of organizational behavior degrees, actively recruit good students from many undergraduate majors. Applicants to the master of accountancy program, who are required to have previous educational background in accounting, can be admitted as early as their senior year. Interested students should contact the specific program advisor to determine any prerequisites.

**Medicine**

Don Bloxham, PhD, Advisor (380 WIDB, PO Box 25176, [801] 378-3044)

Students who wish to enter medical school should plan to graduate with a major that reflects interests and allows for an alternate career. Any major can serve as a premedical major. Come to 380 WIDB for help.

Courses needed to fulfill the requirements of most medical schools are: Engl 115, 316 (or 312 or 315), Math 110, 111, Chem 105–107 (or 111, 112, 226), 351–353, Phscs 105–108 (or 121, 221), Biol 130, and Zool 460. Zool 139, 339, and 439 are highly recommended.

Plan major requirements with the departmental advisor and premedical study with the premedical advisor. The acceptance rate of BYU applicants to medical school has been above the national average, but it is decreasing because the number of applicants nationwide is increasing and acceptance is becoming extremely competitive. The majority of students accepted to medical school have a GPA of 3.5 or higher.

**Physical Therapy**

Shane Schulthies, PhD, PT, ATC, Advisor (122 RB, PO Box 22096, [801] 378-3982)

Physical therapy graduate programs base their admissions on cumulative GPA, the Graduate Record Exam, and clinical exposure, plus a BS degree in a preprofessional course of study. Competition is arduous, and a student must maintain a 3.5 or better cumulative GPA. Students changing majors to pre–physical therapy must have a 3.5 cumulative GPA to be admitted to the program.

Basic course work should include: mathematics, two semesters; physics, two semesters; chemistry, two semesters; psychology, two semesters; and zoology, two semesters.

The acceptance rates into physical therapy graduate programs for students graduating in exercise science has been 75 percent for many years.

**Veterinary Medicine**

Beverly L. Roeder (386 WIDB, PO Box 25156, [801] 378-6873) and Richard N. Thwaits (357 WIDB, PO Box 25169, [801] 378-6872), Advisors

Competition for freshman class spaces in veterinary school is keen, and students should expect to achieve above a 3.5 GPA. Many successful applicants have completed the bachelor's degree. Because course requirements differ with individual veterinary schools, students should familiarize themselves with entrance requirements for the schools to which they will apply.

Course work typically includes the following: English, two semesters; mathematics, one semester; chemistry, five semesters; biology, three semesters; physics, two semesters; humanities, three semesters; social science, three semesters; and statistics, one semester. It is also important to have experience working with veterinarians and with animals.

Students are encouraged to incorporate the preveterinary curriculum into an academic program leading to a career alternative.

**Biomedical Engineering, Dental Hygiene, Optometry, Pharmacy, Physician's Assistant, and Podiatry**

Don Bloxham, PhD, Advisor (380 WIDB, PO Box 25776, [801] 378-3044)

Students who are interested in the above health professions may receive help in planning preprofessional course work and applying to the appropriate professional and graduate schools. Catalogs and other materials are available in the Health Professions Advisement Office.

## Risk Management and Safety

J. Wesley Sherwood, Managing Director (TOMH, PO Box 20100, [801] 378-4468)

The Risk Management and Safety Department ensures proper safety programs and procedures, consults with campus personnel about safety concerns, and provides safety-related training. Training topics include hazardous communication (HazCom), radiation safety, defensive driving, van driving, lab safety, fire safety, and CPR/first aid.

Compliance and training in federal, state, and local life safety, OSHA, and environmental regulations are also coordinated by the department.

The Risk Management and Safety Department administers university insurance and workers' compensation programs for all full- and part-time employees.

## Services for Single Parents

"The Resource Book for Successful Single Parent Students" is available at the Women's Services and Resources Office (173 SWKT, PO Box 25548). Individuals interested in networking with other single parents on campus can contact the Single Parents Association through Jean Taylor Scott at (801) 378-4877.

## Student Employment Services

(C-40 ASB, PO Box 21004, [801] 378-3561)

To be employed on campus all students must have a U.S. social security number. Students who are ready to seek employment should also bring proof of acceptance as a full-time student to the Student Employment Services.

Undergraduates and non-degree-seeking graduates are required to carry and maintain 8.5 credit hours per semester. Graduate students are required to carry 2 credit hours and be accepted into a graduate program. Secretarial applicants must take an office skills evaluation test before applying for clerical positions on campus.

Certain governmental restrictions are placed on students from foreign countries. All international students are required to contact the International Student Office to determine their employment status the first time they work on campus.

Federal immigration regulations require everyone hired in the USA to prove work eligibility. A U.S. citizen may use a social security card, state-certified birth certificate, or U.S. passport. One of these documents, along with a current BYU identification card, will satisfy the immigration regulation. International students need a current passport with attached I-20 ID.

Finding a job depends on class schedule, skills, experience, and willingness to accept reasonable employment. Students will find it is a good idea to arrange their class schedule so that a four-hour block is free the same time each day. Some of the most common work shifts are:

4:00 a.m.–7:00 a.m.
6:00 a.m.–10:00 a.m.
8:00 a.m.–Noon
10:00 a.m.–2:00 p.m.
11:00 a.m.–3:00 p.m.
Noon–4:00 p.m.
1:00 p.m.–5:00 p.m.

The university cannot guarantee a job to any student before arrival on campus. Because competition for jobs is keen, students would be wise to come to the university with enough money to support themselves until they find work.

Most jobs on campus are listed at Student Employment Services. However, some departments hire skilled students without listing the positions with Student Employment. Academic departments select from their own students for reading, grading, and research assistant positions. The Missionary Training Center (MTC) accepts applications to fill teaching positions directly from returned missionaries or those who have native foreign language skills.

Student Employment Services posts many jobs from off-campus employers. Students are encouraged to contact these employers directly.

## Student Union: Ernest L. Wilkinson Center

Tamara M. Quick, Managing Director (329 ELWC, PO Box 27908, [801] 378-3111)

The Ernest L. Wilkinson Center serves as the living room of the university, the center of college community life. The ELWC is a place where students may go to relax and participate in cocurricular out-of-class activities that will foster balanced growth and development.

The bowling center, craft and floral shop, copy center, computer time-rental area, barber shop, ID center, post office, lost and found department, and outdoor equipment rental area are all on the first floor. Facilities on the second floor include ballrooms, lounges, dining service offices, dining areas, the off-campus housing office, the campus bookstore, an information center, a movie theater, and a snack and candy counter. The building also houses meeting rooms, the student newspaper publication offices, the student service association, and restaurants serving everything from quick snacks to more formal food.

### Information Center

(Main Floor ELWC, PO Box 27908, [801] 378-4313)

The Information Center answers questions for hundreds of people each day. It has current pamphlets, directories, catalogs, class schedules, bus schedules, and other informational packets. Persons wishing to advertise any university-related activity or event should contact the Information Center directly. Fall/Winter hours are Monday through Friday from 8 a.m. to 8 p.m. and Saturday from 9 a.m. to 5 p.m. Spring/Summer hours are Monday through Friday from 9 a.m. to 6 p.m. and Saturday from 9 a.m. to 5 p.m.

### Lost and Found

(118 ELWC, PO Box 27908, [801] 378-3024)

Lost and Found serves both those who have lost items of value and those who find them. The university strongly urges students and others to put their names and other personal information on their possessions and encourages everybody to turn found items in to Lost and Found immediately.

Approximately 60 percent of the items turned in to Lost and Found are quickly returned to their owners. All unclaimed items are held for two months or longer until they are auctioned or otherwise sold at a Lost-and-Found Sale. Such sales are publicized and held two to three times a year. These sales give students an opportunity to buy needed items at a low cost.

Hours are from 9 a.m. to 5 p.m. Monday through Friday and from 9 a.m. to 1 p.m. Saturday.

### BYU Student Service Association (BYUSA)

(Fourth Floor, ELWC, PO Box 27903, [801] 378-3901)

The mission of the BYU Student Service Association is to strengthen students in their social relationships, civic duty, and service to humankind. Through student leadership, the university community works together to achieve our goal that all who "enter to learn" will be prepared by training and experience to "go forth to serve."

Any student who wants to serve as a volunteer in community service programming or campus activities, in a campus club, on the Homecoming committee, or with programs such as Y Days is invited to become involved.

Ideas for making our university community a better place to learn and to live are also warmly accepted. Students may either come to the Involvement Office or call. There is a place for everyone in the BYU Student Service Association.

## Telecommunication Services

(1206 SFLC, PO Box 26798, [801] 378-7524)

This office provides the university, including *on-campus* student housing, with voice and data communications, local and long-distance telephone services, and telephone mail (PhoneMail) service. Questions regarding on-campus student telephone services should be referred to (801) 378-7813 or 1201 SFLC, PO Box 26798. To make changes to telephone or data services call (801) 378-7524. Changes to the campus telephone directory or questions regarding its publication should be referred to (801) 378-7384 or 310 SFLC, PO Box 26798.

## University Police, Traffic, and Security

The University Police Department is established for the benefit and protection of students, faculty, and staff. The department's state-certified police officers are entrusted with enforcing laws and, when applicable, campus rules and regulations. Noncertified security, traffic, and parking control officers are also utilized by the university to enforce campus rules and regulations.

All persons requiring emergency police assistance or fire or ambulance services should call 911. Receive nonemergency police assistance by calling (801) 378-2222 or by visiting the department at B-66 ASB.

Parking control is the responsibility of the University Police Traffic Division, which is located east of the Carillon Bell Tower at 700 East 1430 North. All BYU students must register their

motor vehicles with the Traffic Division if they intend to park in student lots during restricted hours (from 7:00 a.m. to 4:00 p.m. Monday through Friday).

**Automobile Registration**

To obtain a parking permit, the following must be presented at the Traffic Office between the hours of 7:30 a.m. and 5:00 p.m. Monday through Friday:

1. Current state vehicle registration certificate
2. Proof of emissions compliance. Vehicles registered in areas that do not have an emissions program meeting Utah County requirements will need to pass an emissions test. Contact the Traffic Office for further information, telephone (801) 378-3906.
3. The appropriate fee
4. University identification card
5. Room key or contract (on-campus single housing only)

**Parking Permits**

Zone G
Graduate students (valid in G, Y, and R lots) . . . . . *$40.00
Zone Y
Students living off campus (valid in Y and R lots) . . . . 15.00
Zone Y/C
Student motorcycle
(valid in student motorcycle areas) . . . . . 10.00
Zone R
Students living off campus (valid in R lots) . . . . . 5.00
Zone C
On-campus single housing (valid in C and R lots) . . . . . 7.00
Zone H
Disabled . . . . . variable

*Student permits are valid from the beginning of fall semester through the following September 15.

**Out-of-State Plates**

If a student is married and his or her spouse is a nonstudent employed full-time, then the vehicle must be licensed in the state of Utah and cleared for tax payment. This is done at the Utah Motor Vehicles Division, 150 East Center, Provo.

Faculty and staff employees with out-of-state plates must license their vehicles with the state of Utah and clear them for tax payment before they can receive their parking permits.

**Bicycle Registration**

All bicycles operated or parked on campus must be licensed with a Utah County municipality. Provo city licenses are available at the Traffic Office for a fee of $1.

Bicyclists must:

1. Always park bicycles in racks.
2. Never ride on sidewalks during class breaks.
3. Yield to pedestrians.
4. Obey *all* traffic rules.

Bicycles not parked in racks will be impounded. BYU will not be responsible for cut locks, chains, or cables. Locks, chains, or cables may be cut only when uniformed police or traffic personnel are present.

**Other Regulations and Information**

Owners/operators of motor vehicles operated in Utah County should be prepared to pass Utah County Vehicle Emissions Inspection Maintenance requirements.

Neighborhoods adjoining campus are sometimes inundated with parked vehicles. Students are encouraged to obtain BYU parking permits and to park in university parking lots authorized by the permit.

Traffic regulation information may be obtained from the Traffic Office. It is the responsibility of all students, faculty, and staff members to obey all traffic rules and regulations.

Questions may be directed to Traffic Office personnel at (801) 378-3906.

## Veterans Support

(B-150 ASB, PO Box 21113, [801] 378-2768)

The Veterans Support Office certifies the enrollment of eligible veterans or their dependents for educational benefits from the U.S. Department of Veterans Affairs (VA). Information and help in applying for these benefits are available from this office.

# Accreditation and Affiliations

Brigham Young University is fully accredited by the Northwest Association of Schools and Colleges. In addition, many professional programs of the university are reviewed, evaluated, and accredited by national and state associations and boards.

**The following organizations have given full accreditation to related programs at the university:**

Accreditation Board for Engineering and Technology, Inc. (ABET) for the four-year programs leading to bachelor of science degrees in chemical engineering, civil engineering, electrical engineering, manufacturing engineering, mechanical engineering; (TAC/ABET); electronics engineering technology and manufacturing engineering technology.
Accrediting Council for Education in Journalism and Mass Communications
American Academy of Nurse Practitioners
American Assembly of Collegiate Schools of Business
American Association for Marriage and Family Therapy
American Bar Association
American Council for Construction Education
American Dietetic Association
American Institute of Graphic Arts
American Library Association
American Medical Association Committee on Allied Health Education and Accreditation.
American Political Science Association
American Psychological Association
American Research Center in Egypt
American Speech, Language, Hearing Association
American Veterinary Medical Association
College Reading and Learning Association
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Computing Science Accreditation Board
Council of Baccalaureate and Higher Degree Programs of the National League for Nursing
Council on Accreditation, National Recreation and Park Association/American Association of Leisure and Recreation
Council on Social Work Education
National Accrediting Agency for Clinical Laboratory Sciences
National Association for the Education of Young Children
National Association of Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration
National Association of Schools of Theatre
National Association of State Directors of Teacher Education and Certification
National Athletic Trainers' Association/Joint Review Committee—Athletic Training
National Council for Accreditation of Teacher Education
National Environmental Health Association
Northwest Association of Schools and Colleges
Northwest Association of Secondary and Higher Schools
Utah State Bar Association
Utah State Board of Nursing
Utah State Department of Education
Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.

**Brigham Young University is affiliated with the following educational and professional associations:**

Academy for Health Services Marketing
Academy of Financial Services
Academy of International Business
Academy of Management
Academy of Marketing Science
Actors Equity Association
Administrative Management Society
Alpha Kappa Delta
American Academy of Advertising
American Academy of Management
American Academy of Nurse Practitioners
American Accounting Association
American Advertising Association
American Advertising Federation
American Agricultural Economics Association
American Alliance for Health, Physical Education, Recreation, and Dance
American Alliance for Theatre and Education (AATE)
American Anthropological Association
American-Arab Affairs Council
American Association for Advances in Health Care Research
American Association for Artificial Intelligence
American Association for Counseling and Development
American Association for Italian Studies
American Association for Leisure and Recreation
American Association for the Advancement of Science
American Association for the Advancement of Slavic Studies
American Association of Adult and Continuing Education
American Association of Bovine Practitioners
American Association of Colleges
American Association of Colleges for Teacher Education
American Association of Colleges of Nursing
American Association of Collegiate Registrars and Admissions Officers
American Association of Equine Practitioners
American Association of Family and Consumer Sciences
American Association of Health, Physical Education, Recreation, and Dance
American Association of Higher Education
American Association of Investments
American Association of Petroleum Geologists
American Association of Physics Teachers
American Association of Presidents of Independent Colleges and Universities
American Association of Real Estate Appraisers
American Association of School Administrators
American Association of Small Ruminant Practitioners
American Association of Teachers of Arabic
American Association of Teachers of French
American Association of Teachers of German
American Association of Teachers of Italian
American Association of Teachers of Slavic and East European Languages

American Association of Teachers of Spanish and Portuguese
American Association of University Women
American Business Law Association
American Chemical Society
American Choral Directors Association
American College of Health Administrators
American College of Health Care Executives
American College of Nutrition
American College of Sports Medicine
American College Personnel Association
American College Theatre Association (ACTA)
American Collegiate Retailing
American Comparative Literature Association
American Council for the Teaching of Foreign Languages (ACTFL)
American Council of Teachers of Russian
American Council on Consumer Interests
American Council on Education
American Crystallographic Association
American Dairy Science Association
American DDR Studies Association
American Economics Association
American Educational Research Association
American Federation of Musicians
American Federation of Television and Radio Employees (AFTRA)
American Film Institute
American Finance Association
American Geophysical Union
American Guild of Musical Artists
American Guild of Organists
American Historical Association
American Hospital Association
American Institute for Maghribi Studies
American Institute of Aeronautics and Astronautics
American Institute of Certified Public Accountants
American Institute of Chemical Engineers
American Institute of Design and Drafting
American Institute of Nutrition
American Institute of Organ Builders
American Institute of Physics
American Institute of Plant Engineers
American Library Association
American Liszt Society
American Management Association
American Marketing Association
American Mathematical Society
American Meat Science Association
American Museum Association
American Musical Instrument Society
American Musicological Society
American Newspaper Publishers Association
American Nurses Association
American Philological Association
American Philosophical Association
American Physical Society
American Political Science Association
American Production and Inventory Control Society
American Psychological Association
American Public Radio
American Public Television Association
American Risk and Insurance Association
American Schools of Construction
American Schools of Oriental Research
American Society for Biochemistry and Molecular Biology
American Society for Clinical Nutrition
American Society for Engineering Education
American Society for Engineering Management
American Society for Horticultural Science
American Society for Microbiology
American Society for Public Administration
American Society for Quality Control
American Society for Theatre Research (ASTR)
American Society of Agronomy
American Society of Animal Science
American Society of Biochemistry and Molecular Biology
American Society of Civil Engineers
American Society of Composers, Authors, and Publishers
American Society of Eighteenth-Century Studies
American Society of Interior Design
American Society of Mammalogists
American Society of Mechanical Engineers
American Society of Public Accountants
American Society of Training and Development
American Sociological Association
American Statistical Association
American String Teachers Association
American Taxation Association
American Theatre Association
American Translators Association
American Viola d'amore Society
American Viola Society
American Vocational Association
American Women in Radio and Television
Archaeological Conservancy, The
Associated Builders and Contractors
Associated General Contractors of America
Associated Schools of Construction
Associated Writing Programs
Association for Advances in Health Care Research
Association for Asian Studies
Association for Business Communication
Association for Comparative Economic Studies
Association for Comparative Studies
Association for Computational Linguistics
Association for Computers and the Humanities
Association for Computing Machinery
Association for Consumer Research
Association for Counselor Education and Supervision
Association for Education in Journalism and Mass Communications
Association for Educational Communications and Technology
Association for Library and Information Science Education
Association for Literary and Linguistic Computing
Association for Manufacturing Excellence
Association for Mormon Counselors and Psychotherapists
Association for Mormon Letters
Association for Public Policy Analysis and Management
Association for Student Judicial Affairs
Association for Systems Management
Association for Theatre in Higher Education (ATHE)
Association of American Colleges
Association of American Law Schools
Association of American University Presses
Association of Asian Studies
Association of Baccalaureate Social Work Programs
Association of College Unions—International
Association of Continuing Higher Education
Association of Departments of English
Association of Departments of Foreign Languages
Association of General Contractors
Association of Interior Designers
Association of Performing Arts Presenters
Association of Physical Plant Administrators
Association of Professional Genealogists
Association of Psychology Postdoctoral and Internship Centers
Association of Research Libraries
Association of Supervision and Curriculum Development
Association of Teacher Educators
Association of Teachers of Chinese

Association of Teachers of Japanese
Association of Western Universities
Beta Alpha Psi
Bibliographic Center for Research, Rocky Mountain Region
Broadcast Education Association
Center for Applied Linguistics (CAL)
Center for Arabic Study Abroad
Center for International Scholarly Exchange (CISE)
Center for Research Libraries
Central Education Network
Central Opera Service
Changes in Liberal Education
Classical Association of the Middle West and South
College and University Machine Records Conference
College and University Personnel Association
College Art Association
College Band Directors National Association
College Entrance Examination Board
College Media Advisors
College Music Society
College Placement Council
College Reading and Learning Association
Computer-Assisted Language Instruction Consortium (CALICO)
Computer Science Accreditation Commission
Computing Sciences Accreditation Board
Confederation of International Organizers of Folkdance Festivals
Conference on Christianity and Literature
Congress on Research in Dance
Consumer Research Association
Co–op America
Correctional Educational Association
Council for European Studies
Council for Programs in Technical and Scientific Communication
Council for the Advancement and Support of Education
Council of Graduate Departments of Psychology
Council of Graduate Schools in the United States
Council on Social Work Education
Crop Science Society of America
Dance and the Child International
Dante Society of America
Data Processing Management Association
Decision Sciences Institute
Econometric Society
EDP Auditors Association
Educational Films Library Association
Educational Society for Resource Management
Educational Theatre Association (ETA)
Eta Kappa Nu
Eugene O'Neill Society of America
European Accounting Association
European Association of Exploration Geophysicists
European Trade Association
Federation of American Societies for Experimental Biology
Federation of Schools of Accountancy
Financial Management Association
Friends of the Permian
Geological Society of America
German Studies Association
Goal/QPC, Inc.
Goethe Institute (U.S. and West Germany)
Golden Key National Honor Society
Graduate Management Admissions Council
Guild of Carillonneurs in North America
Health Care Financial Association
Ibsen Society of America
Imperial Society of Dance
Industrial Relations Research Association
Institute of Business Designers
Institute of Electrical and Electronic Engineers
Institute of Food Technologists
Institute of Industrial Engineers
Institute of Internal Auditors
Institute of International Education (IIE)
Institute of Management Accountants
Institute of Management Science/Operations Research Society of America
Institute of Management Sciences
Interior Design Education Council
International Arts Medicine Association
International Association for Dance Medicine and Science
International Association for Financial Planning
International Association for Korean Language Educators (IAKLE)
International Association for Mass Communication Research
International Association of Jazz Educators
International Association of Learning Laboratories
International Association of Scholarly Publishers
International Association of Theatre for Children and Young People (ASSITEJ/USA)
International Association of Theatrical and Screen Employees (IATSE)
International City Management Association
International Comparative Literature Association
International Conference for Computers in the Humanities
International Congress of Meat Science and Technology
International Congress of University Adult Education
International Double Reed Society
International Facility Management Association
International Federation for Theatre Research (IFTR)
International Horn Society
International Institute of Forecasters
International Meat Processors
International Musicological Society
International Newspaper Advertising and Marketing Executives
International Organization of Scenographers, Architects, and Technicians of Theatre (OISTAT)
International Personnel Management Associations
International Public Relations Association
International Reading Association
International Schools of Theatre
International Society for Music in Medicine
International Studies Association
International Technology Education Association
International Viola Society
Joint National Committee for Languages
Kennedy Center American College Theatre Festival (KC/ACTF)
Linguistic Society of America
Marketing Science Institute
Master Piano Technicians, Inc.
Mathematical Association of America
Mathematical Sciences Research Institute
Medical Group Management Association
Medieval Academy of America
Microscopy Society of America
Middle East Studies Association of North America
Mineralogical Society of America
Modern Language Association
Mountain Plains Adult Education Association
Mountain Plains Library Association
Mu Sigma Rho
Music Educators National Conference
Music Library Association
Music Teachers National Association
National Academic Advising Association
National Academy of Television Arts and Sciences (EMMY)
National Accrediting Agency for Clinical Laboratory Sciences
National Art Education Association
National Association for Campus Activities
National Association for Humanities Education
National Association for Institutional Research

National Association for Internships and Experiential Education
National Association for Music Therapy
National Association for Physical Education in Higher Education
National Association for the Education of Young Children
National Association of Art Administrators
National Association of Broadcasters
National Association of Business Economists
National Association of Certified Fraud Examiners
National Association of College Wind and Percussion Instructors
National Association of Elementary Principals
National Association of Foreign Student Affairs
National Association of Geology Teachers
National Association of Home Builders
National Association of Independent Colleges and Universities
National Association of Purchasing Management
National Association of Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Theatre (NAST)
National Association of Secondary School Principals
National Association of Student Financial Aid Administrators
National Association of Student Personnel Administrators
National Association of Teachers
National Association of Teachers of Singing
National Athletic Trainers Association
National Band Association
National Business Educators Association
National Center for Employee Ownership
National Collegiate Honors Council
National Commission of Accrediting
National Commission on Cooperative Education
National Computer Graphics Association
National Council for Accreditation of Teacher Education
National Council of Teachers of Mathematics
National Council of University Research Administrators
National Council on Family Relations
National Dance Association
National Dance Council of America
National Financial Association
National Flute Association
National Folk Organization of the United States of America
National Intramural Recreational Sports Association
National League for Nursing
National Network of Graduate Business School Women
National Opera Association
National Organization on Legal Problems in Education
National Orientation Directors Association
National Press Women
National Public Radio
National Recreation and Parks Association
National School Boards Association
National University Continuing Education Association
Network of Quality and Productivity Center
North American Case Research Association
North American Steel Band Association
North American Veterinary Technology Association
Office Systems Research Association
Online Computer Library Center, Inc.
Operations Management Association
Operations Research Society of America
Organization of American Historians
Organization of American Kodaly Educators
Organizational Development Institute
Pacific Islands News Association
Pacific Mountain Network
Paleontological Society
Pander Society, (Hans Christian)
Percussive Arts Society
Phi Delta Kappa
Phi Kappa Phi
Pi Delta Phi
Pi Kappa Lambda
Pi Mu Epsilon
Pi Sigma Alpha
Piano Technicians Guild, Inc.
Poultry Science
Production and Operations Management Society
Psi Chi
Public Broadcasting Service
Public Radio News Directors Association
Public Radio Program Directors Association
Public Relations Society of America
Public Relations Student Society of America
Public Telecommunications Financial Managers Association (PTFMA)
Radio Television News Directors Association
Research Libraries Group
Research Workers in Animal Disease
Rocky Mountain Collegiate Media Association
Rocky Mountain Mathematics Consortium
Rocky Mountain Medieval and Renaissance Association
Rocky Mountain Modern Language Association
Rocky Mountain Public Radio
Rocky Mountain Theatre Association (RMTA)
Royal Asiatic Society—Korean Branch
Rural Sociological Society
Scientific Research Society, Sigma Xi
Screen Actors Guild (SAG)
Sigma Alpha Iota
Sigma Theta Tau
Small Business Institute Directors Association
Society for Applied Sociology
Society for Cinema Studies (SCS)
Society for College and University Planners
Society for Computer Simulation
Society for Consumer Psychology
Society for Human Resource Management
Society for Industrial and Applied Mathematics (SIAM)
Society for International Development
Society for Manufacturing Engineers
Society for Music Theory
Society for Research in Child Development
Society for Scholarly Publishing
Society for Technical Communication
Society for the Advancement of Materials and Process Engineering
Society for the Advancement of Scandinavian Studies
Society of Automotive Engineers
Society of Biblical Literature
Society of Broadcast Engineers
Society of Core Analysts
Society of Dance History Scholars
Society of Economic Paleontologists and Mineralogists
Society of Engineering and Mineral Exploration Geophysicists
Society of Exploration Geophysicists
Society of Illustrators—New York Institutional Member
Society of Manufacturing Engineers
Society of Motion Picture and TV Engineers
Society of Newspaper Design
Society of Professional Audio Recording Services
Society of Professional Journalists
Society of Research Administrators
Society of Vertebrate Paleontology
Society of Women Engineers
Soil and Water Conservation Society
Soil Science Society of America
Sonneck Society for American Music
Southwest Conference on Language Teaching
Southwest District American Alliance for Health, Physical Education, Recreation, and Dance

Speech Communication Association
Strategic Management Society
Suburban Newspapers Association
Systematics Association
Tau Alphi Pi
Tau Beta Pi
Teachers of English to Speakers of Other Languages (TESOL)
Theta Alpha Phi
Treasury Management Association
United Scenic Artists (USAA)
United States Association for Small Business and Entrepreneurship Group
United States Institute of Theatre Technology (USITT)
University Film and Video Association (UFVA)
UNIX and Advanced Computing Systems Professional and Technical Association
Utah Academy of Sciences, Arts, and Letters
Utah Advertising Federation
Utah Association of Certified Public Accountants
Utah Association of Sciences, Arts, and Letters
Utah Broadcasters Association
Utah Flute Association
Utah Foreign Language Association
Utah Genealogical Association
Utah Geological Association
Utah Library Association
Utah Museums Association
Utah Music Teachers Association
Utah Press Association
Utah Professionals of Student Activities
Utah State Office of Education
Utah Theatre Association (UTA)
Vocational Industrial Clubs of America
Western Academy of Management
Western Alliance of Arts Administrators
Western Agricultural Economics Association
Western Association of Cooperative and Work Experience Educators
Western Association of Graduate Schools
Western Association of Schools and Colleges
Western College Association
Western College Physical Education Society
Western Communication Educators Association
Western Economics Association
Western Finance Association
Western Governmental Research Association
Western History Association
Western Institute of Nursing
Western Interstate Commission on Higher Education
Western Marketing Educators Association
Western Political Science Association
Western Region Collegiate Honors Council
Western Risk and Insurance Association
Western Society for Research in Nursing
Women in Communications
Women in Management
World Association for Case Method Research and Application
World Poultry Science
World Rabbit Science Association
World Trade Association

# Administration

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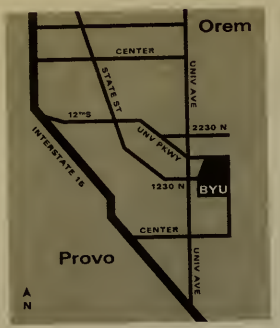
# BRIGHAM YOUNG UNIVERSITY CAMPUS

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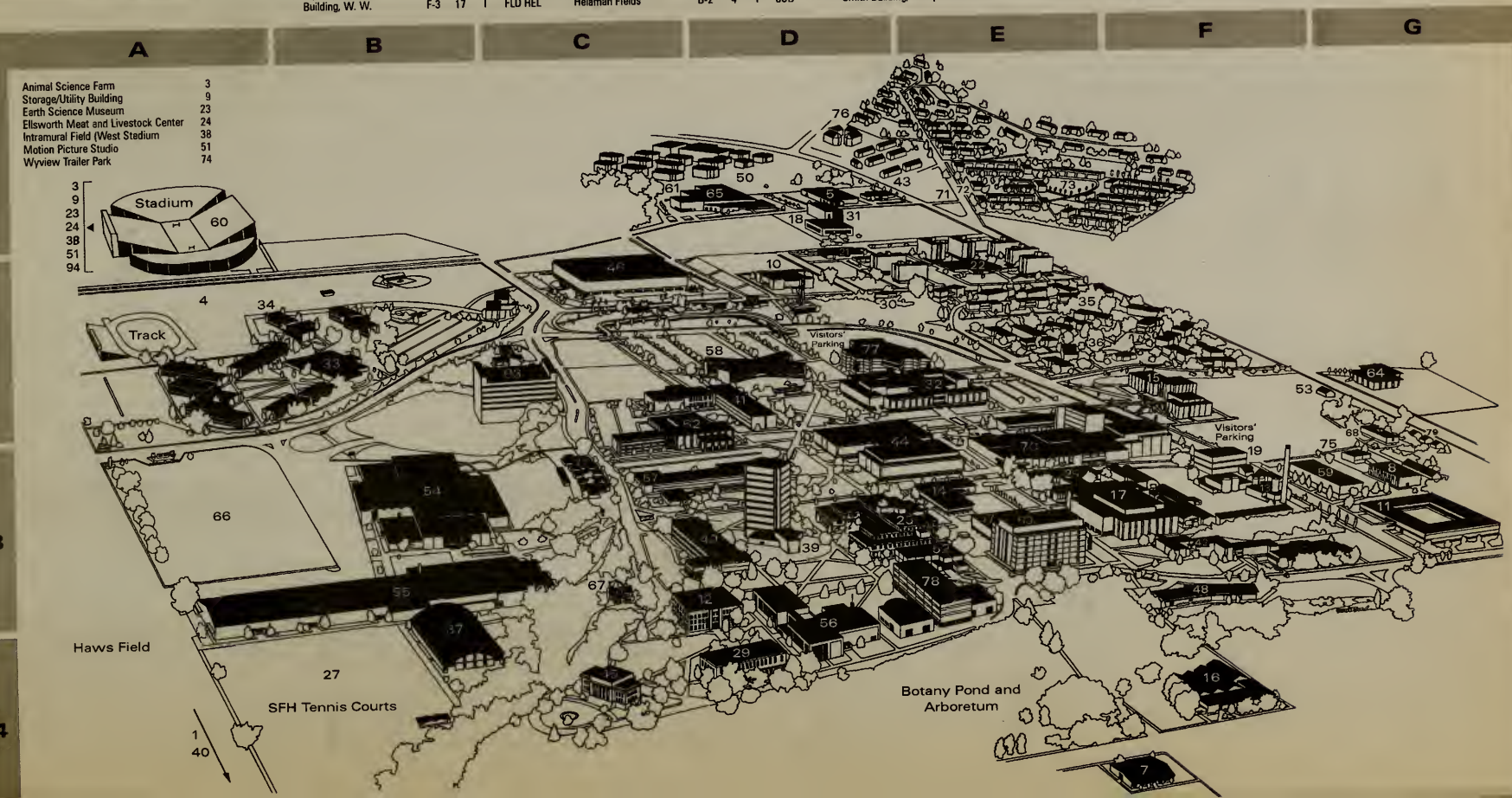

wisdom

compassion

integrity

service

reason

character

eminent

scholarship